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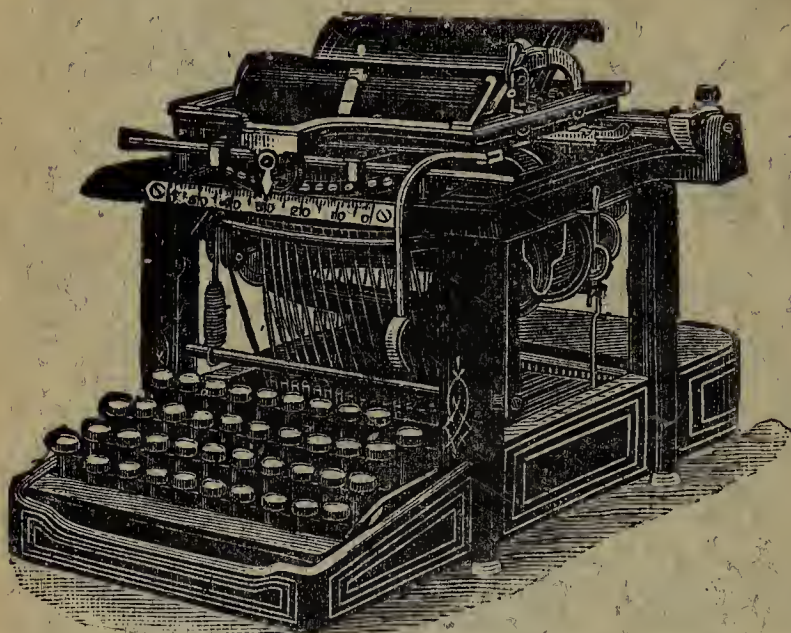
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## NEW DRUGS AND FOOD-STUFFS, &c.

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## INDEX TO VOLUME.

# NOTICES.

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“‘Braithwaite’s Retrospect’ is a work which commands our sincerest admiration. In spite of younger rivals, it still holds its own as *the* book for the busy practitioner. The cream of the best papers of some of the best journals in the world is served up in a way that ought to tempt the most jaded palate. As journals increase, and medical men become more and more afflicted with the *cacoethes scribendi*, it is a relief to know that judicious selections from them are made in the manner shown in these pages, evidently the result of a long familiarity with the collating process. Those of us who read our *Braithwaite’s* faithfully need not be afraid of falling very far behind in our knowledge of general practice.”—*Edinburgh Medical Journal*, Feb., 1889.

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“These books were very dear to me as they stood upon my shelves. A twig from some one of my nerves (as I remember saying long ago) ran to every one of them. From the time when I first opened Bell’s ‘Anatomy’ to that in which I closed my Sharpey and Quain, and my ‘Braithwaite’s Retrospect,’ they marked the progress of my studies, and stood before me as the stepping-stones of my professional life.”—DR. OLIVER WENDELL HOLMES, *The Lancet*, March 2nd, 1889.

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“We have had for many years remarkably good abstracts of the Medical Sciences; witness Ranking and Radcliffe’s, which held so excellent a place; and Braithwaite’s, which has become a medical household word.”—DR. B. W. RICHARDSON, F.R.S., *The Asclepiad*, October, 1888, p. 291.

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“With this book in his hand, no man need be ignorant of the improvements of the day. We scarcely know how to select amongst the numerous articles of interest, the most interesting.”—*The Lancet*.

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“‘Braithwaite’s Retrospect’ quite maintains its excellence, and there is good reason to hope that the work may long continue to be the able and invaluable guide to the past that it has become. Not a few persons would be almost at a total loss how to proceed without the help the Retrospect renders.”—*Medical Press and Circular*.



# Synopsis.

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AN ABSTRACT OF THE MOST PRACTICAL ARTICLES IN THIS VOLUME,  
WITH OTHER SHORT ARTICLES FROM THE MEDICAL JOURNALS,  
SHOWING THE MOST IMPORTANT INDICATIONS OF TREATMENT,  
PUBLISHED BY DIFFERENT WRITERS DURING THE HALF YEAR.

ARRANGED ALPHABETICALLY.

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GENERAL MEDICINE AND THERAPEUTICS.

## ANGIO-NEUROTIC ŒDEMA.

Bauke (*Berliner klin. Woch.*, February 8, 1892) describes in detail two cases of circumscribed œdema of sudden onset and rapid disappearance occurring in individuals of neuropathic tendencies and without other signs of disease. The evidence in favour of the nervous origin of this affection is (1) that most often the patients are neurotic ; (2) that in this disease, as in other nervous diseases, heredity is often present ; (3) that it frequently appears as a result of psychical disturbances and after such noxious agents as alcohol, which affect by preference the nervous system ; (4) that it occurs with other nervous affections, such as neuralgia, etc. ; (5) that some patients present signs of other vasomotor neuroses, such as Basedow's disease and urticaria ; (6) that this œdema may appear on one side only, and also at such times (menstrual period, climacteric) favourable to neuropathic manifestations ; and (7) that improvement is brought about by measures directed to the nervous system. The author says that the form accompanied by (local) rise of temperature and redness is due to local paralysis of the constrictors or reflex stimulation of the dilators, producing increased transudation, and that, in the other form without these accompaniments, an alteration in the lymph secretion takes place. If, in consequence of repeated and long-standing œdema, changes in the tissues supervene then a tropho-neurosis may be correctly spoken of. Inflammatory or congestive œdema has nothing in common with this angio-neurotic form, either etiologically or clinically. (Epitome of the British Medical Journal, March 12, 1892, p. 41.)

**Angio-neurotic Œdema.**

Dr. Charles E. Simon has published notes of three cases of acute angio-neurotic œdema. This condition is characterised by the occurrence of circumscribed swellings, coming on with great rapidity, usually multiple, attacking by preference the eyelids, lips, hands, feet, genitals, and buttocks. As a rule there are no premonitory symptoms; but general lassitude, headaches, and impairment of the appetite may precede an attack. Sensations, variously described as itching, burning, prickling, etc., are usually experienced in a part before the swelling appears. The colour of the swollen part may be of a slightly reddish hue, but more often it is somewhat paler than normal; the temperature is at the same time slightly lowered, following a rise, in the affected part. The swelling may persist uninterruptedly for one to four days, but at times it disappears at night entirely, or to some extent, to recur the next morning. The mucous membrane of the pharynx and larynx may become involved; and while the disease in its ordinary form is unconnected with danger to life, it assumes a most serious aspect when these parts become affected with œdema. Such cases are rare, though no doubt the mucous membrane is slightly involved in every case, as is shown by hyperæmia. Cases are, however, on record in which scarification became necessary. Such symptoms as nausea, vomiting, colicky pains, and constipation during an attack, and diarrhœa towards its end, are more frequently present than absent. The vomitings may be extremely profuse. With the approaching end of the attack all the symptoms disappear; a slight degree of lassitude and anorexia may persist for a time. There is an apparent hereditary tendency to the disease. The malady usually begins at an early age, and is just as common in males as in females. Attacks occur as a rule with considerable regularity, every day or every month, and at almost the same hour, but may be irregular in interval. The disease has a predilection in its outbreak for parts previously attacked. In the diagnosis of this affection the examination of the urine is very important: in this disease albumen and casts are absent, but cases occur which closely simulate the disease, and in which the state of the urine points to renal changes. The prognosis as far as life is concerned is good, but as far as complete cure is concerned is bad. The treatment resolves itself into the careful avoidance of any known cause, and the employment of tonic treatment and good food. The disease is doubtless one of the sympathetic system. Indigestion, certain foods, fatigue, colds, psychical excitement, sudden barometric changes, &c., seem to stand in a causative relation to the disease.—*Johns Hopkins Hospital Reports*, p. 339, vol. ii., No. 6, 1891. (*The Practitioner*, February, 1892, p. 136.)



**ASCITES.—Its Cure or Subsidence.**

At the Medical Society on February 15, 1892, Dr. J. S. Bristowe read a paper on the Cure or Subsidence of Ascites due to Hepatic Disease. He took as his text four cases which were under observation up to the present time. 1. A governess, aged forty-four, who came to St. Thomas's Hospital in the summer of 1886. She was depressed and lacrymose, and suffered from delirium and hallucinations. She had jaundice, ascites, œdema of the legs, and diarrhœa; also suffering from bronchitis and an attack of poly-arthritis during her stay of nine months and a half. There was no albuminuria and no enlargement of veins. Five, thirty-two, and thirty-four pints of fluid were removed by paracentesis abdominis on three several occasions, and she left greatly improved on May 24, 1887. She was again admitted on August 29, 1889. Her complexion was sallow, she still had bronchitis, and eighteen and twenty pints of fluid were removed from the abdomen. She left on January 12, 1890, and has continued well since except for the bronchitis. She was seen last week. The case was a typical one of chronic alcoholism, as was borne out by the mental condition, and an attack of peripheral neuritis on the second occasion, and it may be accepted that the ascites was due to cirrhosis of the liver which still existed, and was liable to induce a recurrence of the ascites. 2. A gentleman, aged thirty-five, who had fallen into intemperate and immoral habits in 1878. He was lost sight of till Oct. 8, 1882; he was then weak and thin, suffered from sickness, and for three weeks had had œdema of the feet and ascites. On November 20 he was worse, was irritable and rambling, and had in addition some fluid in the left pleura. On November 22 he was admitted to St. Thomas's Home, with jaundice and dyspnœa, the left pleural and the peritoneal cavities being full of fluid. A month later he was improved in all respects. Three pints of fluid had been removed from the pleura, and he left on January 24, 1883, for New Zealand, where he has remained in fairly good health. Here, again, was a very clear alcoholic history; and though the ascites got well without tapping, there could be no doubt, from the fact of the development of this form of dropsy and of jaundice, that his liver was at that time affected with early cirrhosis. 3. A man in good circumstances, aged forty, who kept an eating-house. He was known to drink many glasses of spirits daily, and was seen in consultation on October 24, 1888. His complexion for some time had been sallow, and for six weeks there had been enlargement of the abdomen and œdema of the legs. In addition the liver was enlarged, and there was jaundice. He was enjoined to abstain from alcohol, to take a tonic and a pill of mercury digitalis and squill. He was tapped five times: nine, thirteen and a half,



nineteen and a half, nineteen, and fifteen pints being removed. On December 28 the liver was smaller, and he had gained flesh ; four tapplings were performed since, the quantity of fluid removed being eight to sixteen pints, the last occasion being in August, 1889. After that he went to Vichy, and on his return took cold and was laid up with bronchitis and pleurisy. He was tapped again on February 5 and March 3, and twice since, and has been taking 1-16th of a grain of iodine off and on. On February 8, 1892, he was in excellent health and spirits, and carried on his business with his old energy, going to market three times a week, but he continued to take gin-and-water. In this case paracentesis was performed fourteen times in the course of a year and ten months, the alcoholic history was indisputable, and that the ascites depended upon the hepatic disease is shown both by the enlargement of the liver and the temporary jaundice. 4. A lady, aged twenty-four, belonging to a respectable and wealthy family, with small and delicate physique, and usually enjoying good health, was seen April 30, 1890. At the end of the preceding year she had a sudden and profuse attack of hæmatemesis while abroad ; there was a recurrence on arriving at a seaport in England, and since reaching home there had been two more, the last on the day preceding the consultation. Latterly there had been pain and uneasiness after food, with loss of appetite. She was anæmic and weak, and was treated for the ensuing twelve days as a case of simple ulcer of the stomach, with great improvement. The abdomen then filled rapidly in three days. Eleven pints were removed on May 15, and by May 28 paracentesis had been performed three times, nine pints being withdrawn on each occasion. The liver was now found to be enlarged. The general health had improved, and the gastric symptoms had disappeared. After another tapping a small nodule could be felt, and the idea of cancer was entertained. In June she was tapped four times, the quantity removed being from four to fifteen pints. It was then found out that a brother had been under treatment for a congenital syphilitic affection of the eye. This led to the diagnosis of syphilis, and iodide of potassium was prescribed in ten-grain doses. Later the quantity was increased and mercury was added. In August she was tapped four times, and in September thrice, the quantity being from four to seven pints. Altogether paracentesis was performed twenty-seven times, the last occasion being September 22, 1890. She was now better than she had been for years. The causes of obstruction were threefold: 1. True cirrhosis affecting the small vessels and capillaries. 2. Cancerous and syphilitic growths occupying the transverse fissure compressing or involving the portal trunk, and occlusion by thrombi.

3. Obstructive disease of the heart or lungs causing "nutmeg" liver. The first three cases belonged to the first and the fourth to the second class. With regard to the mode of recovery in these cases, it was, in the first place, amply proved that there is a fairly free communication between the portal vein and the systemic veins, and hence when portal obstruction exists there is a tendency for the blood of the portal circulation to be shunted into some of these other veins which gradually dilate, so that without any beneficial change in the liver itself the ascites may disappear. The œsophagus, as shown by Drs. Wilson and Radcliff, has a ring of veins which is largely concerned in the process, and the consequent varicose condition of the submucous veins in this part and their tendency to rupture are the source of the profuse hæmoptysis and melænia in the late stages, though the vessels of the stomach and duodenum are the ones affected at first. Sometimes, however, there is no evidence that the anastomosing veins have dilated, and on this supposition alone recurrence of ascites after renewal of bad habits would be inexplicable. Moreover, in the case of a chronic inflammatory process dependent on an irritant locally applied, cessation of the influence would be likely to be followed not only by arrest of the disease, but also by some amelioration in so much of it as had recently occurred and was amenable to treatment. In the first three cases there was jaundice, which implied a wider or profounder change than that producing ascites, and which subsided. Again, as in Case 4, there are causes of obstruction which are removable. The efficacy of treatment depends largely on the accuracy of diagnosis. Doubtless there are many cases of visceral syphilis which are misinterpreted to the detriment of the patient. A simple and fairly successful treatment is to promote the general health by suitable diet and tonics, to cut off alcohol, to tap from time to time without waiting for extreme distension, and to regulate the bowels. Bearing in mind the tendency to spontaneous diarrhœa, purgative measures were not to be recommended, and diaphoretics were of little use; more was to be hoped for from diuretics, especially copaiba in ten-grain doses and the pill of mercury, digitalis, and squill. There was no objection to the use of mercury and iodide of potassium in the early stages. (The Lancet, February 20, 1892, p. 422.)

## CHOREA AND RHEUMATISM.

Dr. Sturges concludes a paper entitled "The Kindred of Chorea" with the following proportions: 1. Recent endocarditis, with no further heart change, is the cardinal anatomical feature in those dying with chorea without reference to rheumatism. Yet it is not constantly found, and some of the most striking



examples of deaths by chorea are without it. 2. Choreic endocarditis is distinguishable from rheumatic endocarditis both clinically and anatomically. Clinically it is without physical or general signs, often without rheumatism, and only disclosed post mortem. Anatomically the inflammation is recent, its chief, often its only seat, is the mitral valve, and there are no consecutive changes in the heart. The contrast to this is seen in rheumatic children with valve disease who are or who have been choreic. In them the physical signs observed during life correspond with well-recognised changes in the valves and heart chambers found after death and due to the rheumatism and not to the chorea. 3. Choreic endocarditis, therefore, is not accurately described as a manifestation of rheumatism. Both chorea and rheumatism are liable to this inflammation, each after its own manner. The common feature may be taken as evidence that the two affections are pathologically allied, not that either of them is a form or expression of the other. 4. The fact of this alliance is best seen by the observation of chorea in very early life, at which period it is often intimately associated with rheumatic polyarthritis in the same subject and at the same time. But with growth, in obedience to the natural history of the two affections respectively, and influenced by the several accidents of life, this association is relaxed, and at puberty it has ceased to be intimate. 5. Both chorea and rheumatism are, it is probable, members of a pathological group which has arthritis for a common factor, and of whose underlying source we are yet in search. (The American Journal of the Medical Sciences, November, 1891, p. 586.)

## CREASOTE.

Prof. Julius Sommerbrodt, in the *Berliner klinische Wochenschrift*, 1891, No. 43, S. 1048, presents an eloquent plea for the use of this remedy for the cure of tuberculosis. In 1887 he published the results of his observations during the preceding nine years, the maximum daily dose being under eight drops. He became convinced that with this dose complete cure could be obtained in the early stage of the disease. His present paper is intended to demonstrate that this dose can be largely exceeded with safety, and that more severe cases and those of longer duration cannot only be relieved, but, indeed, cured. He considers it, in a daily dosage of one-quarter to one drachm, to be the most valuable remedy against tuberculosis. In support of his position he cites twelve cases. Quoting Nathan, Sée (with compressed air in pneumatic cabinet), Tappert [Tapret?], Grasset, and Schüller (with surgical methods) as to the value of this remedy, he advises that it be prescribed in gelatine capsules containing



one and a half drops in company with cod-liver oil. He objects to its administration with balsam of Tolu, or in the form of pill, on account of its variable absorption; nor does he prescribe guaiacol, since he does not believe that this represents the entire therapeutic value of creasote. When the cost of the pills must be considered, he recommends Hopmann's mixture (one part creasote, two parts tincture of gentian) diluted with water, or in Hungarian wine. He approves of all accessory means of cure—climatic, open air, pulmonary gymnastics, nourishing diet—but he insists that the treatment must be of long duration. He finds that it does not disagree with the stomach, although at the commencement of treatment it may be necessary for a time to interrupt its administration. (*The American Journal of the Medical Sciences*, January, 1892, p. 74.)

### DIPHTHERIA.—Treatment of.

In the *Deutsche medicinische Wochenschrift*, 1891, No. 48, S. 1299, Prof. Strübing accepts the statement of Löffler, that the treatment should fulfil three indications: 1. It must influence the vitality of the bacilli, and limit their further production. 2. It must destroy the operation of the poison already introduced. 3. It must prevent the invasion of other microorganisms. Although no treatment now exists which meets all these indications, yet he recommends for local application an alcoholic iodine-phenol solution, alternating with the liquor of the sesquichloride of iron and of sulphur. Careful cleansing of the throat by large quantities of gargles, especially of lime-water. For internal treatment an hourly dose of a teaspoonful of a one-tenth of one per cent. solution of cyanide of mercury. Löffler recommends also local applications of a three to five per cent. solution of carbolic acid in forty parts of rectified oil of turpentine and sixty parts of absolute alcohol. He reports cases illustrating this treatment. (*The American Journal of the Medical Sciences*, March, 1892, p. 312.)

### DIURETIN.

Dr. Kress, in an elaborate paper in the *Münchener medicinische Wochenschrift*, 1891, No. 38, S. 663, gives a very careful review of the literature of this recent valuable addition to our therapeutic armamentarium. His conclusions are: 1. It is a true diuretic, increasing both the solid and watery constituents of the urine. 2. It is not an irritant, and its influence upon the organs of circulation is secondary. 3. It is most valuable as a diuretic in acute and chronic diseases of heart and kidneys. 4. It can be administered to two drachms *per diem* without unpleasant results, and continued without losing its value. (*The American Journal of the Medical Sciences*, January, 1892, p. 75.)

**Diuretin.**

Von Schröder found that both caffeine and theobromine had a marked diuretic action, and that caffeine had also an undesirable influence upon the brain and vasomotor centres. The fact that theobromine acted only upon the kidneys induced Chr. Gram (*Therapeutische Monatshefte*, 1890, No. 1) to make clinical trials of its diuretic action. It was, however, soon found to have disadvantages; since it is only slightly soluble it sometimes caused vomiting. After many attempts, Gram succeeded in finding a compound of theobromine which had not these disadvantages; this was a combination of a sodium salt of theobromine with salicylate of sodium, to which was given the name diuretin. This substance is soluble in water. The dose is fifteen grains, and this amount may be given six times a day. The diuresis after two or three days is marked, and it continues for a time after the withdrawal of the drug. If albumin is present, its amount is unchanged by the drug. It will act as a diuretic in some cases where digitalis, caffeine, and strophanthus have failed. It has no cumulative action; the system is not readily rendered unresponsive to its action. It may be given with cardiac tonics. The conclusions of Dr. Geisler are that diuretin unquestionably increases the blood-pressure, as he has found no exception to this in all of the few cases included in his observations, and he feels bound to include the drug among the cardiac stimulants, as well as among diuretics. In patients with valvular disease its action was most satisfactory; less so in affections of the heart's muscle. In the latter cases its action was that of a diuretic chiefly. In acute nephritis its action was much greater than in chronic nephritis, as shown by the increase in the urine and the rapid disappearance of the cedema. In one case of cirrhosis of the liver it caused no diuresis; in a healthy person it increased somewhat the twenty-four hours' urine. It is probable that the salicylate of sodium also contributes to the diuretic action, and that this is not the result of the theobromine alone (*Berliner klinische Wochenschrift*, 1891, Nos. 16 and 17). Dr. Aug. Hoffmann has found diuretin an energetic diuretic, especially in cardiac dropsy; it reaches its maximum effect on the second to the sixth day. As regards its action upon the heart he is not in accord with Schröder or Gram, since he finds the heart's action is made more regular and stronger by it; as a substitute for digitalis it will not answer, though it may well be given with it. As a substitute for caffeine, as a diuretic, it will be found serviceable. It is best given in solution, since it will not keep in the form of powder when exposed to the air for some time. The carbonic acid of the air decomposes diuretin into insoluble theobromine. Fifteen grains in a tablespoonful of water, or R., Diuretin,  $\mathfrak{z}\text{jss}$ ,



aq. menthæ pip.,  $\bar{3}$ ij., syr. simpl.,  $\bar{3}$ j. ; sig., one tablespoonful five or six times a day. All acid solutions and fruit syrups are to be avoided in prescriptions containing diuretin. In all cases it is best to have the solutions freshly made, as they decompose after a few days. *Therapeutische Monatshefte*, 1891, No. 5. (The American Journal of the Medical Sciences, November, 1891, p. 533.)

## HÆMATEMESIS OF EARLY ADULT LIFE IN FEMALES.

At the Medical Society on February 20, 1892, Dr. Donald Hood read a paper on the Hæmatemesis of Early Adult Life in Females. The author wished to draw attention to the clinical phenomena accompanying this form of hemorrhage, stating that from his own experience of the symptom he would feel inclined, in a large majority of instances, to look upon it as but denoting a state of passive congestion, or stasis in the vessels of the stomach, and as being directly due to the anæmic condition so generally found accompanying this form of hemorrhage, and not necessarily the result of ulceration. His personal experience is confined to about forty cases, and as supplemental to these he brought before the Society 155 cases collected for him by Dr. Goodall, late Medical Registrar to Guy's Hospital, from the clinical and pathological records of that hospital during a period of twenty years. It was noted that during that period no case is recorded at Guy's Hospital of a young girl succumbing to an attack of hæmatemesis due to gastric ulcer. During the same period of twenty years sixteen patients were admitted suffering from a fatal peritonitis, the result of a perforating ulcer. Eight were men and eight were women. Ulcer of the stomach, regarded as causal in producing fatal peritonitis, is equally fatal to both sexes, and at much the same time of life. It was asked why it should not be equally causal with regard to hemorrhage; clinically severe hemorrhage, excepting as the result of incipient cirrhosis, being markedly rare among males in early life. In discussing the etiology of hæmatemesis, cases would appear to fall into one of three fairly well-defined groups—the period of early adult life, largely composed of anæmic girls, and comprising the cases referred to by the author; the period of middle life, in which the hemorrhage is usually due to cirrhosis or ulceration, hemorrhage from cirrhosis being much more frequent among the female sex than is supposed to be the case; and, lastly, the period of advanced life, in which malignant disease and ulceration are about equally met with. In the course of the communication reference was made to two cases published by the late Dr. Murchison, in which a minute pore-like orifice was found



leading into a blood-vessel. In both of these repeated attacks of hæmatemesis occurred before death. Hæmatemesis is so frequently found accompanying the anæmia of girl life that it would appear to be one of the results of that profound blood change, and when the gastric symptoms of anæmia are compared carefully with those due to ulceration of the stomach, a marked difference will usually be found to exist, the stomach symptoms of anæmia being generally of less intensity. The author considered the matter as one of importance, having special regard to treatment, for he maintained that in a very large majority of cases of hæmatemesis occurring in early adult female life and complicated with anæmia, a treatment based on saline aperients combined with iron will give better results than one which would be urgently demanded if an ulcer of the stomach were the source of hemorrhage. (The Lancet, February 20, 1892, p. 423.)

#### **INFLUENZA.—Treatment of.** (From a CLINICAL LECTURE.)

Besides advising, of course, what is self-evident, that local treatment must be instituted to relieve the laryngeal and aural catarrh, by the usual means, I ask you to watch the chest most closely. We have dry-cupped some of our patients with most evident relief and benefit. Has any specific been found? is there any treatment that the large experience of the last few years has demonstrated to be akin to specific? I wish I could so state. But there is no doubt that our tried friend, quinine, is of value; whether it is because it destroys microbes or not, I cannot say. However, in some cases, when there is a good deal of headache and pain through the body, we substitute the salts of cinchonidia, selecting the salicylate, given in daily doses of from 12 to 18 grains. We must also keep up the action of the skin, and if there be not much sweating, I am in the habit of using the solution of acetate of ammonium with small doses of morphine. In all cases, too, the strength must be looked after, and elderly persons generally require stimulants. In instances of much pain in the head and aching in the bones and muscles, Dover's powder in small doses is beneficial, and it or codeine also helps the irritating cough. In others, we gave antipyrin or phenacetin, grs. iij, with quinine gr. i, in powder or capsule, every two or three hours, until the pain is strikingly modified. One of my patients has become so attached to this prescription that he carries the capsules with him constantly to have them on hand, for he is thus sure of relief; and the combination also relieves the pains that may continue after the influenza attack has passed away. But phenacetin and antipyrin are powerful agents, and are only to be employed under the observation of the physician. These are strong drugs, in their

way as effective as strychnine, opium, or arsenic, and should not be used except under medical direction. I will conclude this summary of treatment with the advice to you to look after the heart even in convalescence, and for the cardiac weakness, or the slow action which may persist, you will find no remedy equal to strychnine. Again, impress upon everyone this rule: Give up early, do not go out too soon. The community that learns this quickest will have learned to avoid much suffering and disaster. (Professor J. M. Da Costa, *Medical News*, January 2, 1892, p. 17.)

## LEUKÆMIA.

Weber (*St. Petersburger med. Woch.*, February 13, 1892) gives an analysis of some twenty-eight cases of this disease. He divides them, after Virchow, into (1) the lienal form, where the white cells are large, the nuclei being small, (2) the lymphatic form, where the white cells are small and the nuclei large, and (3) the mixed form. Twelve of these twenty-eight cases belonged to the first group, four to the second, and twelve to the third. The spleen was enlarged in all the cases. The splenic tumour was smooth, and where the increase in size had been rapid there was evidence of local peritonitis. In ten cases there was considerable enlargement of the liver, but this was not uniform, as is readily explained by the morbid anatomy. In ten cases there was polyadenitis, whereas in four cases the mesenteric glands were alone enlarged, in four the cervical and thymus, in two the mammary glands, and in two the axillary glands. In these last four cases there was suppuration in the glands. In the case of the mammary glands the suppuration began in small foci in the periphery. When the glands were involved the lymphatic form of the disease predominated. The author's table would show that the disease may occur at all ages. Four of his cases occurred in the first year of life, and three in the seventh decade. It was most frequent between the ages of fifteen and twenty-five. The author lays stress on psychical influences as a cause. He then relates in detail two cases, one of which is remarkable, as the patient seems to have recovered. In this case the spleen and many other glands were involved. (*Epitome of the British Medical Journal*, March 12, 1892, p. 41.)

## PIPERAZIN.

From clinical and experimental observations, Biesenthal and Schmidt recommend piperazin in troubles connected with increased formation of uric acid. (*The Practitioner*, xlvii., p. 57.) It is readily soluble in water, is crystalline and non-poisonous. It readily dissolves uric acid and uratic



concretions, and in this excels the other known remedies (soda, lithia, borax, sodium phosphate). From the circumstance of its being easily absorbed and entering the organism unaltered, it acts throughout the body as a solvent wherever it comes in contact with uric acid or uratic concretions; displaces the uric acid salts in solution; and so facilitates and brings about the excretion of uric acid. Piperazin is best administered internally in weak solution, about fifteen grains being taken in the day either in ordinary or in soda water, and not in pill or powder. Its use for some time is of advantage. The taste is so slight that even as a solution of one in a hundred it is scarcely to be noticed. The ordinary daily dose of fifteen grains gives almost no taste to a bottle of soda water. Piperazin has no irritant action upon the mucous membranes, and is, therefore, in one to two per cent. solution, well suited for the washing out and gradual solution of uric acid calculi in the bladder. Its ready solubility enables it to be used for subcutaneous injection, a solution of one in a hundred, or weaker, being injected into the gouty tophi. A watery spirit lotion has been used as an external application to the affected joints. As piperazin dissolves not only uric acid very readily, but also the albuminous substances which serve to build up the concretions, it must, therefore, act frequently as a solvent upon concretions not made up of uric acid exclusively, such as compound uric acid stones (uric acid, phosphate, and oxalate calculi). These should be softened and gradually destroyed.—*Berlin. klin. Wochenschr.*, No. 2, 1892. (The Practitioner, May, 1892, p. 379.)

### **POLYMYOSITIS.—Infective.**

Bozzolo, of Turin, in a paper read before the Italian Medical Congress (*Rif. Med.*, October 26, 1891) cited a number of cases of myositis described by various authors, and especially those published in 1887 by Unverricht, of acute progressive polymyositis, as tending to show that this disease is of an infective nature. Several observers have suspected this, but, according to the author, bacteriological proof has been wanting. Bozzolo therefore deemed it interesting to describe a case of his own, of multiple myositis, with suppurative foci, dermatitis, pericarditis, and nephritis, which undoubtedly owed its origin to infection by the *S. pyogenes aureus*. The patient presented at first the signs of an acute rheumatism with pericarditis. The attack began with fever, without rigors, but with severe pain in the limbs and joints. On the third day a pericardial friction sound made its appearance, with temperature 40°, and pulse 118, respirations 35, and pain behind the sternum. The joints were not swollen; the spleen was large, and the patient became quite delirious. A petechial rash also appeared, especially on the



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dorsum of the hands and front of the thigh. On the fifth day there was grave cyanosis and dyspnœa, and the patient died. From the pericardial effusion, and also from the urine obtained, with antiseptic precautions, five hours after death, pure cultures of the *S. pyogenes aureus* were obtained. There were found post mortem multiple small deposits in muscles, heart, and limbs, also in the joints and viscera. There was, of course, corresponding damage to the neighbouring structures. There was no history as to how the infection had taken place. (Supplement to the British Medical Journal, December 5, 1891, p. 178.)

### SCARLET FEVER.—The Tongue in.

Neumann (*Deutsche med. Zeitung*, 1891, No. 63, p. 715) states that in this disease the tongue passes through three stages of change: 1. Tumefaction of the mucous membrane with disturbance of the epithelium; 2. Desquamation; 3. Regeneration of the desquamated epithelium. The appearance of the characteristic "strawberry" tongue is caused, as is well-known, by the swelling of the filiform and fungiform papillæ deprived of their epithelium. Of 48 patients examined for this symptom, the "strawberry" tongue was found in 38 (79 per cent.); in 4 the tongue was in one of the three stages mentioned above; while in 6 no modification was observed. Dyspeptic troubles precursory to the disease often so modify the tongue that the mucous membrane shows no new modification under the influence of the exanthem. The "strawberry" tongue was observed to last for one day in 3 cases; two days in 5 cases; three days in 6; four days in 4; and more than four days in the other 20 cases. It appeared during the first three days in 32 per cent. of the cases, and upon the fourth day in 68 per cent. The intensity of the cutaneous eruption seemed to bear no relation to the modifications of the tongue. (The American Journal of the Medical Sciences, April, 1892, p. 481.)

### SPLENIC ANÆMIA IN CHILDREN.

At the Medical Society on February 8, 1892, Dr. Walter Carr read a paper on Splenic Anæmia, based upon thirty cases of the disease observed at the Victoria Hospital for Children, Chelsea. Sixteen were boys, and fourteen girls; in age, when first seen, they varied from two months to two years and a half. They were usually wasted, and nearly always more or less anæmic in appearance, often showing the characteristic splenic tint. The spleen was always enlarged, and in about half the cases reached the level of the anterior superior iliac spine. There were frequently also some apparent enlargement of the liver and some swelling of the external lymphatic glands. In the more

severe cases hemorrhages occurred and irregular attacks of pyrexia, both probably due simply to the profound anæmia. Examination of the blood showed the red corpuscles to vary in number from 32 to 78 per cent. of the normal, and the hæmoglobin value of the individual corpuscles to be more or less deficient. The white corpuscles were only slightly in excess, averaging about 1 to 100 red; in only one case was the proportion higher than 1 to 70. Ten of the thirty cases were known to have died either from increasing anæmia and exhaustion or from intercurrent diseases, six could not be traced, thirteen had either completely recovered or were steadily improving—one alone, after two years, remained practically *in statu quo*. A necropsy was obtained in seven of the cases. The spleen was found adherent in two, in one it only weighed one ounce, in the others from four ounces to eight ounces and a half; in all it was firm, dark, and distinctly increased in consistence, but otherwise presented no very abnormal appearance, and the microscope showed the enlargement to be due to simple hypertrophy, with some increase of fibrous tissue. The liver was not found distinctly enlarged, and in only two cases markedly tougher than usual. There was no noteworthy change in any other organ. The connection of the disease with ague, congenital syphilis, and rickets respectively was then discussed. The possibility of a malarial origin, either direct or inherited, was referred to, and in two of the children the father had suffered from definite ague; but in the case of a boy, aged two years and a half, born in India, with large liver and spleen and marked anæmia, the result of many attacks of ague, after five weeks of treatment with quinine the liver and spleen could no longer be felt, and the anæmia had greatly improved, whereas ordinary cases of splenic anæmia showed no such improvement under quinine. In fourteen of the cases there was either undoubted or probable evidence of congenital syphilis, and seven of these died, but in a large number of other cases there was no indication whatever of specific taint, and even in the most obviously syphilitic cases the spleen and the anæmia were not affected by mercurial treatment, so that the conclusion adopted was that syphilis could be regarded as a predisposing condition only, and not as the sole cause of the disease. In twenty-seven of the cases there was rickets, more or less severe, but it was argued that this could not be the real cause of the disease, because (1) in the great majority of rickety children no splenic enlargement could be discovered; (2) there was no connection between the severity of the rickets and the size of the spleen or the degree of anæmia; (3) in certain cases there was no evidence whatever of rickets. It was argued, therefore, that splenic anæmia must be due to a separate



cachexia, to which both rickets and syphilis predisposed, but which required some further definite exciting cause at present unknown for its development, and that this theory of its origin would account for the similarity in clinical course and in pathological appearances observed in all the cases, whether rachitic or syphilitic, and also for the absence of improvement under the treatment usually beneficial for the two latter conditions. The question was also discussed whether splenic anæmia occurred after infancy, and an apparent case of the disease arising and proving fatal in a boy aged seven years was described. In regard to treatment, mercury, arsenic, and quinine appeared entirely useless, but improvement seemed sometimes to result from iron given in large and increasing doses. (The Lancet, February 13, 1892, p. 362.)

### **TUBERCULOSIS.—Acute Miliary, without Fever.**

Dr. J. Joseph, of Professor Fürbringer's clinic, discusses this subject in the *Deutsche medicinische Wochenschrift* for July 9. It is universally agreed, he says, that the diagnosis of acute general miliary tuberculosis is often extremely difficult, and even impossible in some cases. The widespread belief that the disease never occurs without fever is responsible for many errors in diagnosis. He therefore considers it of interest to report three cases of undoubted acute general miliary tuberculosis, which ran their course entirely without fever. Two of the cases were under observation for the period of seventeen days, so that the absence of fever was evidently not simply a temporary condition. The diagnosis in all three cases was somewhat uncertain because of the apyrexia, but the autopsy showed in each case numerous gray miliary tubercles in the lungs, liver, spleen, and kidneys. The brain and meninges were unaffected. Dr. Joseph adds that these cases furnish fresh testimony to the fact that acute general miliary tuberculosis may occur without any elevation of temperature whatever. The absence of fever, therefore, is no ground for rejecting the diagnosis in doubtful cases when the other symptoms point to this disease.

Dr. O. Leichtenstern, commenting upon Dr. Joseph's paper, writes in the same journal for August 6 that he has often observed cases of afebrile and even subfebrile acute general miliary tuberculosis. He thinks that it is generally recognised that there is an afebrile form of the disease. He finds it especially frequent in old people. The symptoms often resemble those of cardiac degeneration with general dropsy, or in other cases they suggest marasmus or diffuse capillary bronchitis or pulmonary œdema. He also relates the histories of two children who died with progressive general emaciation,



and in whose cases the diagnosis wavered between pædiatroph, rhachitis, and enteritis. The disease ran its course in both cases entirely without fever, and to his surprise he found post mortem an acute general miliary tuberculosis, with cheesy degeneration of the lymph glands. He has also occasionally seen the disease begin with all the typical symptoms of croupous pneumonia, such as sudden onset with chill, acute lobar infiltration, pneumonic sputum, &c. Such cases are to be explained by assuming a simultaneous development of pneumonia and the acute tubercular process. (*The New York Medical Journal*, January 2, 1892, p. 25.)

### **WRY-NECK.—Congenital.**

Peterson (*Zeitschr. f. Orthopäd. Chirurg.* i, 1, 1891), from a study of the subject of congenital, muscular wry-neck, has arrived at the conclusion that there is no evidence that wry-neck has ever developed from rupture of a normal flexor or extensor of the head during birth. Clinical experience in the sequelæ of tears of muscles, as well as the negative evidence of experiments in animals, is against such an etiological relationship; while the occurrence of intra-uterine shortening of a flexor or extensor of the head has been demonstrated. Clinical observation and experiments in animals have shown that permanent approximation of the points of origin and insertion of a growing muscle is followed by shortening. The intra-uterine development, the preponderant involvement of the right side, as well as the frequent occurrence of wry-neck in cases of pelvic presentation and of difficult labour, are readily explicable by an abnormal condition of the amnion, and require no further explanation. Stromeier's dictum of the traumatic origin of wry-neck has not been sustained. The accoucheur cannot be held responsible in any case of congenital wry-neck. (*Medical News*, November 21, 1891, p. 602.)

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## **AFFECTIONS OF THE NERVOUS SYSTEM.**

### **BILATERAL FACIAL PALSY AS A FORM OF POLYNEURITIS.**

Althaus (*Deutsch. med. Woch.*, September 17, 1891) contributes an article on bilateral facial paralysis, and records two cases in which the disorder was due to acute neuritis of the facial nerve in the lower portion of the Fallopian canal, and formed part of a moderately extensive polyneuritis. One attack was caused by the sting of a poisonous insect, while the second occurred during the recent influenza epidemic, and was probably due to

it. The constant galvanic current, used in the early stages of the attack, appears to be the most useful treatment, the catalytic current being the best. Althaus recommends that a strength of  $\frac{1}{2}$  to 1 milliampère be employed, the anode being applied to the mastoid process and the cathode over the stylo-mastoid foramen. By this means the current traverses the diseased portion of nerve, which it should be allowed to do for five minutes at each sitting. As a rule treatment for three months will be required, if recovery is to be permanent. (Supplement to the British Medical Journal, November 14, 1891, p. 153.)

### **BRAIN SURGERY.—Its present status.**

At the American Surgical Association, September, 1891, Dr. D. Hayes Agnew, of Philadelphia, read a paper with this title, of which the following is an abstract: What is the present position of brain surgery, and what practical lessons can be deduced from a review of the recorded results in this department of surgery? The object of the author was not to glean the entire field, but to confine himself to the work done by Philadelphia surgeons in trephining for epilepsy, traumatic and Jacksonian, intra-cranial abscess, hemorrhage, hydrocephalus, cephalalgia, microcephalus, and neoplasms. *Traumatic Epilepsy.*—Fifty-seven cases were recorded. Of this number forty-one recovered from the operation, four died, and of twelve the result is not given. Thirty-two experienced temporary relief, nine obtained no benefit, four passed out of observation, four were operated on too recently to permit of the result being determined, and four were reported cured. In one of the cases reported cured the patient has been free from attacks for twenty-eight months, in two for ten months, and in the fourth a branch of the great occipital nerve was found impressed in the bone cicatrix. While the results in these cases have not been satisfactory, it by no means follows that surgery holds out no hope against epilepsy. It is not saying too much to assume that surgery is responsible for the great majority of traumatic epileptics, though this statement does not by any means criminate the surgeon of an early day. Whenever the profession can accept the doctrine that all depressed fractures, however slight the depression and entirely irrespective of pressure symptoms, are proper subjects for trephining, then will traumatic epilepsy largely disappear from the list of surgical diseases. It is not improbable, in view of the greatly diminished risk of trephining, that the operation will be extended even to cases of simple fracture or fissure of the skull. *Jacksonian Epilepsy.*—The table contains fourteen cases. In all the discharging centre was removed. Nine recovered, and four died. Of those recovering, three had less frequent and less violent attacks, one realised slight benefit, one



disappeared shortly after operation, and in two no benefit was observed. One is reported as cured, and in that case the operation was done during the present year. *Abscess.*—Eighteen cases of this nature have been collected. Six had had fracture of the skull, two had syphilitic necrosis, in one a foreign body had entered the brain, in nine the abscess was due to middle-ear disease, and in two there had been a severe blow without fracture of the skull. All the patients died in less than fourteen days. Five cases of trephining for intracranial traumatic hemorrhage are recorded, in each instance the symptoms necessitating operation developed within twelve hours after the reception of the injury. Four of the five cases recovered not only from the operation, but with the restoration of the suspended functions. Of trephining for acute and chronic hydrocephalus five cases are reported. All the cases died, one living to the forty-fifth day. As hydrocephalus is usually due to tubercular disease or to morbid growth, it is difficult to understand on what ground such operations are undertaken. *Cephalalgia.*—Five cases are given, in each of which the focus of pain was referred to the neighbourhood of a scar on the scalp. In four of the cases complete relief was afforded. *Trephining for Microcephalus.*—Seven cases are reported, of which four died and three recovered from the operation. One of the deaths, however, was due to scarlet fever occurring shortly after the operation. The result in the successful cases is reported as “moderate improvement.” From the results obtained from the education of idiots, the author thought it wiser to relegate these unfortunates to special training-schools rather than to the trephine and rongeur. The debatable cases would be those accompanied with athetosis, in which condition some improvement might be obtained. *Brain Tumours.*—Only four operations for brain tumours have been done by Philadelphia surgeons. In one the growth was a fibroma weighing four ounces. The operation was done by Dr. Keen, December 15, 1887, since which time the patient has had only six epileptic seizures. In the second case, done by the same operator, the tumour was in the occipital lobe and not removable. The patient died the following day from shock and hemorrhage. In the third case no tumour was found, and in the fourth a cyst occupying the cuneus was found and emptied. The patient died in thirty-six hours, and at the autopsy a large sarcoma was found occupying the temporo-sphenoidal lobe. The deductions presented by the author are as follows: 1. That all fractures of the skull attended with depression, however slight, and entirely irrespective of symptoms, should, in view of the late after-effects, be subjected to the trephine. 2. That trephining for traumatic epilepsy promises only palliation at

best. 3. That trephining for Jacksonian epilepsy is to be regarded as only affording temporary benefit. 4. That trephining for abscess, in view of the fact that all such cases left alone almost invariably terminate fatally, is entirely proper, and that the earlier such operation is done the better. 5. That trephining for intracranial traumatic hemorrhage is both an imperative and highly promising operation. 6. That trephining for cephalalgia, or traumatic epilepsy (medical measures having failed), should be undertaken with every prospect of success. 7. That trephining for hydrocephalus is a useless operation. 8. That trephining for microcephalus, independent of athetosis, confers no credit upon surgery. 9. That it is more than probable that, as our observations multiply, the sphere of the trephine as a preliminary for the removal of brain tumours will be lessened rather than be amplified. (New York Medical Record, September 26, 1891, p. 351.)

## **CEREBRAL ATROPHIES OF CHILDHOOD AND THE EFFECTS OF CRANIOTOMY IN IMBECILITY, EPILEPSY, AND PARALYSIS.**

From review of the clinical types of cerebral atrophy in childhood, of the pathological conditions producing these types, and of the results of surgical treatment by craniotomy, the following conclusions may be drawn: 1. Hemiplegia, sensory defects, and imbecility occurring with or without epilepsy in children, are chronic diseases, incurable by medical treatment. Any means which may be legitimately used to save the individual from a life of invalidism, and to take the burden of his care from the family, is to be employed. 2. The pathological conditions producing these symptoms may be either gross defects and atrophies of the brain, or an arrest of development in the cerebral cells, without any change which is apparent to the naked eye. 3. It is at present impossible to determine absolutely the pathological condition present in any given case, without an exploratory operation. 4. Such operations are not without danger, but if caution is used in opening the dura, and if the operation is made as short as possible, the dangers are avoided. 5. When manifest atrophies are present the operation will not produce any result. When the condition is one of arrested development of cerebral tissue, it may prove of service. When clots, cysts, or tumours are found and removed, the chance of recovery is increased. When the skull is markedly microcephalic from early union of the sutures, the increased space given to the brain by the operation appears to stimulate its growth and development. 6. Epileptic attacks are frequently reduced in frequency and modified in character by craniotomy. When the opening of the



skull remains covered only by the soft tissues, it appears to act as a safety-valve, allowing changes in the intra-cranial contents to occur without producing pressure upon the brain. 7. While hemiplegia, aphasia, athetosis, and sensory defects have been relieved by operation, it is as yet impossible to predict to what extent imbecility may be relieved. 8. Reports of cases should be made in full, and not within six months of the time of operation, as conclusions cannot be reliable unless reached from long observation. (Dr. Allen Starr, *New York Medical Record*, January 23, 1892, p. 91.)

### CHOREA.—The Paralyses of.

In this disorder there are two distinct forms of paralysis that do not appear, however, to have been very carefully distinguished. Only one of these, the first below, belongs to the clinical forms under discussion. (a) True choreic paralysis usually incomplete. This commonly appears either very early in chorea or else at the beginning of convalescence. A paralysis varying from partial to very pronounced may usher in the more characteristic phases of chorea. The child is brought by the anxious parent with this complaint alone. Inquiry shows that though it may have developed rapidly its onset was not strictly sudden. Such cases are far more misleading than where the trouble follows a typical chorea. Though this form is usually unilateral (monoplegic or hemiplegic), in rare cases a paraplegic or paraparetic type, or a condition like general motor exhaustion occurs. However, the mono- and hemi-pareses in the pre-jactatory stage of chorea, not infrequent in any large nerve clinic, sufficiently attest the fact that motor impairment may be due to the choreic process alone; and they further indicate that the general paralytic condition, seen in or after chorea, is not wholly due to the tiring of the nerve motor apparatus.

Souza-Leite and E. Chéribuliez (*Progrès Méd.*, 1889, No. 19) have published two observations on girls—or really young women—with neuropathic family history, in whom for a time there was paresis of both lower extremities (arsenic as a factor excluded). They also quote a corresponding case from Ollivier's thesis. The choreic paralysis, including paraplegia without marked jactation, are also fully considered by Cadet de Gassicourt (*Rev. mens. d. Mal. de l'Enf.*, 1889; seen only in abstract). Paralysis during or after the characteristic period of chorea will rarely be misconstrued. In early and doubtful cases something in the mental condition of the child, a greater impairment of one side, an occasional choreic twitch, or a history of past chorea, usually gives a clue to their real nature. (b) Neuritis (arsenical or rheumatic) following chorea. This is a far more frequent cause of paraplegia than chorea alone.

Sherwell (*Brooklyn Med. Journ.*, April, 1890, p. 273) has added a recent case to others by Brouardel and Pouchet. Railton's case of paralysis following chorea is attributed by others (*v. Sajous' Annual*, 1888) to arsenic; and the same possibility is suggested in Fry's case ("Chorea with Multiple Neuritis," *Journ. Nerv. and Ment. Dis.*, June, 1890). Several other cases have been published. In fact there has been some question, whether the cases attributed to chorea were not in reality all due to arsenic. But such is certainly not the case. In Ashby's case (*Manchester Med. Chron.*, 1890), occurring in the course of a choreic attack, both arms and legs were affected; the sensitive contractures, atrophy, etc., indicate that it was a neuritis, evidently rheumatic. Do these cases of the second class represent the initial or slightly developed stage of severer trouble, or, are they always self-limited? As to the malarial group, one of the above cases, as well as one of different character given by Holt, indicates that spontaneous recovery may be expected; and the same holds for the rhachitic and choreic forms. There is evidently no gross pathological basis, as these cases do not in themselves present any proof thereof, and under suitable management recover so rapidly. The paresis may be the immediate effect of toxic matters in the circulation; or it may be a pseudo form, the consequence of muscular and fascial tenderness; according to prevailing views, however, some mild form of neuritis seems most probable, though, as is the case in common pressure paralysis, the change may be too slight to be demonstrable. However, it is quite possible that the seat and nature of the trouble may be very different in the different forms. That the condition in each seems to favour the development of polyneuritis is indicated by various cases. (Dr. William Browning, *The American Journal of the Medical Sciences*, November, 1891, p. 610.)

#### **DIABETES.—Neuritis in.**

In the last number of the *Neurologisches Centralblatt* there is an abstract of a contribution by Eichhorst to the subject of the loss of the patellar reflex in diabetes mellitus. It is based upon the observation of two cases during life, and an examination of the nervous system after death. The first patient was a female, forty-five years of age, who had loss of knee-jerks, slight girdle feeling, no Romberg's symptom, and no ataxy. The urine contained a considerable quantity of sugar. The necropsy revealed atrophy of the pancreas and an unusually large size of the nuclei of the liver cells, but the central nervous system showed no change. In the crural nerves, however, and in the vagi there was a condition of well-marked parenchymatous neuritis. The sciatic nerves were more slightly affected, while



the median nerves were normal. Similarly, in the second case, there was a widespread parenchymatous neuritis affecting the crural nerves and also the sciatics, while the median nerves were normal, and the central nervous system showed no change. The absence of the knee-jerk in diabetes, it is further said, is to be ascribed in some cases to a functional disturbance; in others, as the above, to a change in the anterior crural nerve; and the curious statement is made that if the knee-jerk disappears and returns in the course of the illness, the cause is to be regarded as a functional disturbance. No one will deny that in such a case, granted the reliability of the observation, there is a disturbance of the function of the anterior crural nerve present. But so there is in the cases in which there is inflammation of the nerve, and it seems to us unwarrantable to assume that, because the normal condition becomes re-established, there may not have been a structural change in the nerve underlying the evidences which it presented of disordered function. (*The Lancet*, March 5, 1892, p. 544.)

### **FACIAL PALSY.—Bilateral.**

At the Glasgow Pathological and Clinical Society on October 12, 1891, Dr. Alex. Robertson showed a patient who suffered from palsy of the portio dura successively on the two sides of the face. The patient was a married woman aged 27. She had twice suffered from acute rheumatism—first at 13, and afterwards at 18 years of age. There was a well-marked pre-systolic murmur. In November, 1890, a fortnight after child-birth, she felt twitching on the right side of the face, and next morning that side was paralysed. Power gradually returned, though some of the affected muscles are still weak in their contractions. Three weeks before her admission into the Infirmary on Aug. 4, she awoke one morning to find that the left side of the face was affected as the right had been, and it has continued so since that time. The usual indications of left facial palsy exist at present, though there has been improvement at some points in the distribution of the nerves. Thus, though she cannot raise the eyebrow, she can corrugate it. Details were submitted showing the presence of the reaction of degeneration on the left side. Taste was entirely in abeyance in the anterior two-thirds of the tongue on the left side. This was tested by sugar, salt, and acid solutions. On the other hand, she instantly recognised the bitter taste of quinine in the posterior part of the tongue and the soft palate of that side. Dr. Robertson remarked that the defect of taste pointed to a lesion of the portio dura in or distal to the geniculate ganglion. He mentioned a case that had been under his care about a year ago, in which sensory defect on one side of the face was associated with loss of taste on the

whole of the same side of the tongue and soft palate. Solution of quinine at the back, or sugar or salt at the fore part of the tongue, gave rise to no sensation. Anatomical details were submitted to show that the fifth nerve might subserve taste on the back as well as on the fore part of the tongue. Dr. Robertson considered that the lesion of the nerve was of a rheumatic nature, and was not due to embolism. (The Glasgow Medical Journal, November, 1891, p. 371.)

### **HICCOUGH.—Treatment of.**

Hiccough is sometimes a very troublesome symptom, and in children may persist without discoverable cause for long periods, and seriously interfere with sleep and nutrition. In such a case, a child aged 12, Leloir (*Rev. des Mal. de l'Enf.*, March, 1892) applied digital pressure for three minutes to the left phrenic, between the two attachments of the sterno-mastoid; the hiccough stopped and did not recur. He has since used the method in a large number of cases, and always with success; in some cases pressure for a few seconds has been sufficient, in others a few minutes. (Epitome of the British Medical Journal, March 12, 1892, p. 44.)

### **HYSTERICAL MUTISM.**

This is a subject which has, of late, been attracting much attention on the Continent. I do not know that much has been written about it, as yet, in English; but several cases have been recorded by Dr. Wilks, in his *Diseases of the Nervous System*, and others by Wells, Bright, Willis, and Johnson. It is a very striking condition, occurring for the most part in patients who are obviously hysterical, but occasionally met with as a symptom existing *per se*, without any of the usual hysterical accompaniments or stigmata. It is very closely related to hysterical aphonia, both in its causation and in its tendency to ultimate recovery. Like aphonia, it often appears suddenly as a result of violent emotional excitement, such as fright, or as a result of a convulsive seizure. It frequently disappears with a suddenness equal to that of its onset; and, curious to say, the cause of its disappearance may be an emotional excitement or a fit, such as might originally have produced it. The difference between a case of hysterical aphonia and one of hysterical mutism is, that the aphonic patient, though the voice is lost, can still speak in a whisper, whereas the subject of hysterical mutism cannot speak at all, not even in a whisper; yet the intelligence and all the other faculties are maintained equally well in both cases, and the mute patient, if educated, can still with the utmost fluency give expression to thought in writing. (Dr. John Wyllie, *Edinburgh Medical Journal*, November, 1891, p. 408.)



**INTRA-CRANIAL SYPHILIS.--Diagnostic Symptoms.**

Dr. Landon Carter-Gray concludes a paper entitled, "The Diagnosis of one Form of Intra-Cranial Syphilis," which contains the narratives of twenty-seven illustrative cases, as follows:—I maintain that in many cases of syphilis, constituting a majority of those which have come under my observation, there have been symptoms of a cephalalgia that is quasi-periodical, occurring mostly at night, though occasionally in the afternoon or morning, with marked insomnia, and that when any paralytic or convulsory symptoms supervene, this headache and insomnia suddenly disappear. From these facts I would assert that the occurrence of cephalalgia and insomnia with these characteristics is diagnostic of intra-cranial syphilis. I would furthermore affirm that the occurrence of hemiplegia in an individual under middle age, with or without this insomnia and cephalalgia, should render us extremely suspicious of syphilitic causation. This insomnia and cephalalgia generally belong to the early stage of intra-cranial syphilis, although they are to be found in addition in the primary, secondary, or tertiary stage of the general syphilitic infection.

I have never been able to make a post mortem examination in any case in which the cephalalgia and insomnia were the only symptoms, and I cannot, therefore, state anything positive as to the exact pathological lesions which cause these two symptoms. It is reasonable, however, I think, to assume that they are due to the well-known gummatous infiltration of the meninges, because the pathological alterations of the cerebral and cerebellar substances alone do not usually give rise to pain except when they are the site of neoplasms, and not always then, and also because this is true of the different forms of endarteritis. Another fact that is perhaps confirmatory of this theory is that I have never yet seen a case with the symptoms alone of the peculiar headaches and insomnia that did not yield promptly to vigorous anti-syphilitic treatment.

I am perfectly well aware that the pathognomonic symptom in medicine has gone out of fashion, as time has shown that every one of these so-called signs has proven to belong to more than one disease. Nevertheless, I think it is true that pathognomonic groups of symptoms have held their own in a large degree, as in typhoid, pneumonia, locomotor ataxia, general paresis, etc. I would, therefore, invite the careful attention of the profession to this group which I have just detailed, simply saying that I have never seen it in a case that was undoubtedly non-syphilitic except in one single case of acute bulbar paralysis. I cannot, therefore, resist the conviction that it is of great significance. (*The American Journal of the Medical Sciences*, January, 1892, p. 42.)

**LOCOMOTOR ATAXY.—Flannel Bandages in.**

Dr. Leidy of Philadelphia has recently directed attention to the utility of a flannel bandage, firmly applied, for the relief of the shooting pains in the limbs associated with spinal disease, particularly locomotor ataxy. The use of such a means of relief was suggested to him by the benefit which he has seen derived from firm bandaging in the painful spasms which occur in the limbs after injury; and now, with six months' experience of the remedy, he recommends it strongly. He found that the firm application of a flannel bandage from the toes up to the middle third of the thigh afforded very great relief to lightning pains. In the same way, the application of a firm abdominal binder gave almost immediate relief to the distressing girdle sensation which is so common. If the bandage or binder were removed from the seat of pain it was found that the abnormal sensations recurred very soon, and Dr. Leidy is inclined to regard this simple artifice as of considerable importance. The good effects, he believes, result from the warmth of the bandage, combined with the pressure which it produces and the condition of rest which it ensures. (*The Lancet*, October 10, 1891, p. 828.)

**Locomotor Ataxy.—Analgesia and Atrophy of the Testis in.**

Bitot and Sabrazes (*Rev. de Méd.*, November 10, 1891) give details of thirty-seven well-marked cases of locomotor ataxy, in ten of which the testicles were hypo-algesic (twice only on one side), in eighteen absolutely analgesic (once only on one side), and in nine healthy. The affection was more pronounced when ataxia was present, and even existed in the absence of any local loss in common sensation. Parallel with it there was increasing trouble in the genital functions. There was no constant relation between the analgesia and the disappearance of the testicular reflex. In five cases there was atrophy of the testicles (once, perhaps, antecedent to the nervous disease), the organs being soft and flabby. In four of these five cases syphilis was excluded. Among many other cases of nervous disease, the authors only found testicular hypo-algesia in three cases, and anæsthesia in five; and in five out of these eight cases there was inco-ordination of movement and absent knee-jerks, and two others were examples of progressive general paralysis. This affection may also be present in chronic arsenical intoxication, and rarely in male hysteria. In old people the glands are shrunk, but there is no hypo-algesia. In two of the cases with analgesia and atrophy of the testicles the nerves were examined. The myelin did not take the stain well with osmic acid: and, although presenting moniliform enlargements, it was not broken up. As to the cause of the analgesia, the idea of a peripheral neuritis



suggested itself ; but the authors say that histological *technique* is not advanced enough to reveal slight lesions in the nerves, and that perhaps the pathogeny should be sought in the spinal cord. (Epitome of the British Medical Journal, January 9, 1892, p. 5.)

### LYMPHADENOMA OF SPINE AND CORD.

At the Pathological Society on November 17, 1891, Mr. J. Jackson Clarke showed a specimen of Lymphadenoma affecting the Spinal Cord, Vertebrae, and Lymphatic Glands, from a woman aged twenty-four, who first noticed a lump in the neck fifteen months before death, which was due to bedsores and exhaustion. At the same time there was slight pain in the back and over the lower ribs of the left side. Six months before death the abdominal prevertebral glands were enlarged and adherent to the vertebrae. Both in the neck and in the abdomen the glands varied in size from time to time. Four months before death the patient could walk, and felt well. A fortnight later she was admitted to St. Mary's Hospital, under Dr. Lees, with inability to walk. Pain and spasm continued, and the patient died with large bedsores. The affected lumbar glands were matted together and adherent to the vertebrae, which were infiltrated, and the body of the first lumbar vertebra was destroyed. The growth had extended into the intervertebral foramina, along the nerve roots implicating the dura mater, the pia mater, and the spinal cord itself. The histology of the growth was described, and it was pointed out that the growth differed from a sarcoma in that its vessels had walls of well-defined structure. (The Lancet, November 21, 1891, p. 1167.)

### MIGRAINE AND EPILEPSY.

Referring to the view held by some authors that migraine is a manifestation of epilepsy, Dr. Wilks says:—For many years I have closely watched this subject, and I have no reason to support this view ; in fact, my own experience is opposed to it. The main reason which authors have in associating the two is that the two complaints are both paroxysmal, and, therefore they become placed together under the same heading in medical works. But periodic attacks of complaints in no way make them allied ; and then in these two particular cases how different are the paroxysms. In one case the attack may come on suddenly, without any warning, so that the patient falls down in the streets, or into the fire ; whilst in the other case the headache may be coming on for hours before it reaches its climax. This suddenness in epilepsy shows the attack is not anticipated, whereas an attack of migraine may be not only

foretold, but produced at will. Many persons tell me that sitting in an atmosphere containing much carbonic acid will invariably produce an attack; others say a visit to a picture gallery will induce it; others the smell of flowers. I do not see myself the slightest resemblance between a symptom brought on at any time by an act of the will, and another which shows a periodic explosion of the brain occurring at given intervals. This fact alone in my mind shows a complete separation of the two complaints. Then the symptoms have nothing in common; in the one there is the violent convulsion, dilated pupil, congestion, and often heat of body; in the other a cold skin, contracted pupil, sickness, etc. Then it is said that, although they thus differ in outward phenomena, they may own the same cause and replace one another. This is a question of observation and fact. For my part I have no experience of it. I know a large number of migrainous persons and migrainous families, but I do not see megrim and epilepsy replace one another. The epileptic does not suffer from headache. This fact I arrived at many years ago, after the discovery of syphilitic disease of the cranium, of the membranes or surface of the brain, producing fits. For in these cases a local pain is present, and therefore it constitutes a diagnostic difference between these and simple epilepsy. It has therefore always been an inquiry on my part as to the existence of pain, and it may be stated as an absolute fact that the ordinary epileptic does not suffer from pain in his head. Then it is again said that if the two complaints do not occur together they may be seen in the same family, one member having the one complaint and another member the other. I have no knowledge of this, but, on the contrary, believe that the migrainous patient and the epileptic belong to a different class of persons. It is true that both affections are nervous, but the migraine occurs in persons of highly-strung nervous system—in the neurasthenic—whilst epilepsy occurs in persons who show no such tendency, but often in the dull and stupid. I have seen it somewhere written that migraine is a disease of the upper classes, and I think there must be some truth in this; for if I take men, I do not remember ever prescribing for the complaint amongst our out-patients, whilst epilepsy is common enough; nor can I understand how it could occur amongst them; and what would happen if our soldiers, sailors, policemen, and engine-drivers had attacks of migraine which for some hours would quite incapacitate them from their duties; and yet I never heard a man being declared unfit for these duties from having headache. If I wished to find epileptics, I should go to lunatic asylums or idiot asylums amongst the low and undeveloped; and, on the other hand, seek amongst the bright and intellectual for migraine; and if, moreover, I wanted to



gain any information about the complaint, I should read the *Philosophical Transactions*, where are recorded the histories of many distinguished men who suffered from it. (British Medical Journal, January 2, 1892, p. 4.)

## MUSCULAR DYSTROPHY.

To the opening numbers of the new *Deutsche Zeitschrift für Nervenheilkunde* Erb contributes the most exhaustive monograph that has yet appeared upon this subject (abstract in the Boston Medical and Surgical Journal, January 28, 1892). The clinical types of dystrophies generally recognised are, first, the "juvenile" form of Erb, beginning in youth, occurring in families, affecting primarily the muscles of the shoulder and upper arm, and often associated with true or false hypertrophy; secondly the ordinary pseudo-hypertrophy; thirdly, the "infantile" facio-scapulo-humeral type of Duchenne, recently described by Landouzy and Déjérine; and, lastly, the "hereditary" form of Leyden, beginning usually in the legs. Erb has collected nearly ninety cases, and a number of necropsies and reports of examination of excised muscles. He maintains the essential unity of these four forms. In the juvenile and infantile forms there is often pseudo-hypertrophy; in pseudo-hypertrophy there is often atrophy of the shoulder muscles; in both forms the face may be subsequently involved. All forms may be hereditary, and in the hereditary form the shoulder muscles may be involved. All forms agree in the characteristic attitude of the patient, the affection of certain muscles, the occurrence of hypertrophy and pseudo-hypertrophy, the absence of fibrillary twitchings, and the simple quantitative diminution of electrical irritability. One or two cases are reported in which there was reaction of degeneration, but Erb himself has never seen it. Furthermore, transition forms are not uncommon; in the juvenile form the face may be subsequently involved, as it may in pseudo-hypertrophy; the infantile form may show "juvenile" localisation or pseudo-hypertrophy; pseudo-hypertrophy may have later a juvenile localisation, and all may be hereditary. Finally, forms may occur which cannot easily be assigned to any one of these four types. Another argument in favour of unity is that in one and the same family several of these types may be found. From the harmony in all the essential clinical features and from the occurrence of transition forms in the same family, Erb concludes that clinically these four forms are essentially one. On the pathological side Erb has collected the records of eighteen necropsies and twenty-three examinations of excised muscles. He finds the following characteristic changes: Hypertrophy of the muscular fibre, present in post mortem examinations as well as in the excised portions,

and therefore not due, as Oppenheim and Siemerling have claimed, to the results of excision; atrophy of fibres; alteration in the shape of the fibre, which loses its angles and becomes rounded; an increase of nuclei, with the presence of nuclei in the centre of fibres; a fissuring and division of the fibres and the formation of vacuoles. These changes occur in various combinations, but it is impossible to make any anatomical distinction between the four forms. In all, for instance hypertrophy and fissuring may be rare or frequent, and the fibres may be equal or may vary greatly in size. The interstitial tissue is usually increased in amount, and a deposit of fat is common in it. In general, this proliferation of connective tissue and fatty infiltration are pronounced in pseudo-hypertrophy; but it is also observed in the other forms, and some of the muscles in pseudo-hypertrophy show it only in a slight degree. The complete necropsies show, as a rule, that the nervous system is intact. The muscular changes are the same in these cases as are found in the excised muscles. Erb concludes, therefore, that we do not find in the different forms of muscular dystrophy any essential and comprehensive distinction in the histological changes of the muscles, and that these types form one morbid entity—*dystrophia muscularis progressiva*. (The Lancet, March 26, 1892, p. 710.)

### **OPTIC NEURITIS.—A form of Peripheral Neuritis.**

It is well proved and generally admitted that certain substances and poisons produce an inflammation of certain peripheral nerves (peripheral neuritis), prominent among which are alcohol, lead, arsenic, and bisulphide of carbon. These substances, too, produce some form of optic neuritis. Uhthoff, of Berlin, has clearly shown that alcohol develops axial or chronic retrobulbar optic neuritis. Hutchinson and Allbutt are among several who have reported cases of optic neuritis and subsequent optic-nerve atrophy, as shown by the ophthalmoscope, caused by lead within the system. Among those who have seen optic neuritis in chronic arsenic poisoning are Da Costa and C. L. Dana; Nettleship, Fuchs, Galezowski, and others have seen "axial" optic neuritis (central amblyopia) in persons exposed to the fumes of bisulphide of carbon in the manufacture of certain rubber materials. Diseases which cause peripheral neuritis also cause optic neuritis. Hulke, as early as 1868, recorded cases of optic neuritis after diphtheria, and Allbutt and others have made similar observations. Wadsworth and others have seen optic neuritis after measles. Macnamara has reported cases in which optic neuritis developed in rheumatism and intermittent fever. He has also seen this disease in *la grippe*, and so also



have Weeks, and others. The history of the recent epidemics of *la grippe* furnishes many examples of "peripheral palsies." Typhoid and typhus fevers, small-pox, scarlet fever, syphilis, tabes, tuberculosis, and diabetes stand out more or less prominently in their etiological relations to peripheral neuritis. Optic neuritis also is found in each of them in corresponding frequency. Lastly, both peripheral and optic neuritis occur alike idiopathically without any assignable cause. (Dr. A. A. Hubbell, *The New York Medical Journal*, January 23, 1892, p. 97.)

### PROCURSIVE EPILEPSY.

The variety of epilepsy to which this name is applied is of great medical interest and of no little medico-legal importance. Dr. John Ferguson, of Toronto, in a recent number of the *New York Medical Journal*, cites a number of cases which have come under his own observation, and he formulates a theory to account for the symptoms. The varieties of the disorder are three in number: (1) those in which the procursion or "run" constitutes the entire attack; (2) those in which the procursion immediately precedes an ordinary attack of epilepsy; and (3) those in which the procursion follows the attack or fit. The last variety is said to be very rare. In the cases recorded by Dr. Ferguson, one noticeable fact is the frequency with which short procursive attacks give place in the course of time to ordinary severe epileptic fits. It is also to be noticed that not unfrequently peculiarities of manner, apparently unimportant, such as slight and transient absent-mindedness, precede attacks of procursive epilepsy. There seems, indeed, to be in many cases a continuous series of phenomena, from the mildest and almost unnoticed attacks of *petit mal*, to attacks of which procursion is the feature until the condition culminates in frequent and severe epileptic attacks. In one of the cases recorded by Dr. Ferguson there were first of all short spells of absent-mindedness. In a few years the patient was observed to make quick short runs, of which he had no knowledge. Finally, at the age of fifteen he had his first severe epileptic fit; after this he sometimes had procursive attacks, wheeling round a number of times in a circle, and then running backward and forward several times until consciousness was regained. Dr. Ferguson is inclined to think that these procursive attacks may be dependent upon discharges in the cerebellar cortex, where he supposes there are centres subserving the sensation of position and poise of the body. The discharge of these centres he imagines leads to the suggested movements, and hence the procursive attacks. (*The Lancet*, October 24, 1891, p. 947.)

**SPASMODIC TORTICOLLIS.—Operation for.**

Some advance appears to have been made in the surgical treatment of this most distressing affection ; but until its pathology is more clearly ascertained, we cannot hope that the results of treatment will be anything like uniformly successful. One point that lies on the surface is the variations met with in different cases. In one patient the sterno-mastoid muscle may be the only one affected, in another it will not be implicated at all, and similar variations are met with in the case of the other muscles which rotate the head. It is, therefore, difficult in some cases to determine exactly what muscles are implicated and to what nerves treatment must be directed. Difficulty also arises from the depth at which some of the muscles and the nerves supplying them are placed, so that any operation on these nerves involves a very deep dissection. Nerve-stretching, even when very thoroughly carried out, has not been attended with success, and simple division of the nerves has not given better results. Surgeons are now dealing with these cases by the free excision of the nerves supplying the affected muscles, removing the nerves as near to their central ends as possible. Last year M. Petit recorded twenty-six cases in which he had excised the spinal accessory nerve. Of these, in thirteen a successful result was obtained, seven were much improved, two were slightly better, and three enjoyed temporary benefit only, while one patient died from phlegmonous erysipelas. The operation in question is a comparatively simple measure. The more difficult cases are those in which the posterior muscles are involved. Early last year Dr. W. W. Keen recorded a case in which he had excised muscular branches of the posterior divisions of the first, second, and third cervical nerves with marked benefit, but not complete success. Soon after, Mr. Noble Smith recorded a case in which he had performed the same operation on the second, third, and fourth cervical nerves. Dr. Powers has now related a third instance of this operation, in which he exactly followed Dr. Keen's procedure. The last two patients were greatly benefited by the operation. Dr. Keen makes a transverse incision carried down through the complexus. Mr. Smith employed a vertical incision. The results thus obtained are well worthy of the attention of surgeons, although the treatment is only empirical. (*The Lancet*, March 26, 1892, p. 713.)

**SYRINGOMYELIA.**

At the Hunterian Society on January 27, 1892, Dr. Galloway exhibited a case of peculiar disturbances of sensation, with muscular wasting due to syringomyelia, in a woman, aged forty-seven. The symptoms had gradually become aggravated during



the past twenty-two years. The region affected was the right side of the body from the level of the tenth dorsal vertebra upwards, including the right side of the neck and face and buccal mucous membrane, also the right side of the scalp, and the whole of the right arm. Contact over this region was readily localised, but painful impressions, as well as those of variations of temperature, were only appreciated as simple contact; the right elbow was in the condition met with in tabetic patients. Dr. Jackson concurred in the diagnosis, and to him Dr. Galloway was indebted for permission to exhibit the case. (The British Medical Journal, February 6, 1892, p. 275.)

### **TABES DORSALIS.—Causes of.**

To his previous contributions upon the subject, Erb (*Berliner klin. Wochenschrift*, 1891, Nos. 29, 30) adds the results of painstaking observations upon three hundred and seventy further cases of tabes dorsalis from his own practice. The cases are divided into three groups; those occurring in the better class of patients, those in the lower classes, and those in women. In the first group there was a history or there were present manifestations of syphilis in 89·2 per cent. of the patients; in the second group, in 76 per cent.; and in the third, in 89·5 per cent. In three hundred cases among the better class, the first symptoms appeared in from one to five years following infection in 12 per cent.; from six to ten years, in 37 per cent.; from eleven to fifteen years, in 25 per cent.; from sixteen to twenty years, in 14 per cent. On the other hand, inquiry into the antecedent history of five thousand five hundred cases of widely varying disease in males, disclosed the remarkable fact that but 22·5 per cent. were syphilitic, and 77·5 per cent. not syphilitic. Other causes that were effective in conjunction with syphilis, but which, alone or associated, were of minor importance, were exposure to cold, inordinate muscular activity, sexual excesses, trauma and neuropathic tendency. It is thus demonstrated that in the vast majority of cases tabes is a sequel of syphilis, and that syphilis is by far the most important, the most common, and the most potent etiological factor in tabes. (The American Journal of the Medical Sciences, March, 1892, p. 322.)

### **TRIGEMINAL NEURALGIA.—Removal of Middle Division of Fifth Nerve.**

In removing the middle division from the front I always employ the following procedure. The first essential is to secure the eyelid so as to prevent the access of any strong lotion to the eyes, and obviate the danger of conjunctivitis. The injury done in this way may be very severe, and I have seen it in one case lead to keratitis. The closure of the lids is best accomplished

by simply passing a horsehair suture through the skin about a quarter of an inch from the tarsal margin, and knotting it firmly. An incision following the lower orbital margin is then made, and a small one, one-half to three-quarters of an inch in length, joining it at right angles, and lying over the position of the foramen, which, as before said, is well to the inner side of the mid-line of the orbit. It is best to cut straight through the tissues to the periosteum, and then to strip the periosteum down from the front of the upper jaw, thus exposing the nerve at its point of exit from the foramen. Then it can be easily separated from the artery, and both nerve and vessel can be separately secured by a silk ligature and divided peripherally. The next step is to raise the contents of the orbit from its floor. The periosteum has already been divided along the margin of the cavity. The edge of it must now be carefully raised, and the membrane, which in some parts is very thin, detached from the orbital floor. If it be preserved intact the fat filling the cavity, which is so great a hindrance to the operation, is very easily kept out of the way. The next point is to open out the foramen and the canal as far back as the sphenomaxillary fissure. The blade of a sharp-pointed pair of bone forceps should be introduced into the canal and the bone chipped upwards, so as to leave only a small notch in the orbital margin. The same instrument or a dura mater elevator will raise and detach with ease the roof of the canal, which is usually only present in the anterior half of the groove. The nerve and artery can now be separated from one another for the whole length of the orbit and the nerve can be detached from the base of the skull at the foramen rotundum.

In the performance of this operation, the antrum in a certain number of cases will not be opened at all. In others it will extend so far up into the margin of the orbit as to make it impossible to avoid opening the cavity. Should this be done, however, the inconvenience is slight, and if the bottom of the wound be filled with boracic powder the whole can be properly sutured, and union obtained by first intention. Formerly, in cases in which the antrum had been opened, I was in the habit of draining the wound, but further experience showed that this was unnecessary. By separating and securing the artery hemorrhage can be avoided, and rapid healing of the wound ensured. Should recurrence unfortunately occur after this operation, I should then prefer to carry out the modified Pancoast's operation, of which a description will be given later. (Mr. Victor Horsley, *British Medical Journal*, November 28, 1891, p. 1142.)

[See also Mr. Victor Horsley's articles at pp. 160-168 of this volume of the *Retrospect*.]



**TRIGEMINAL NEURALGIA.—Results of Removal of Gasserian Ganglion for.**

In considering the results of partial or complete removal of the Gasserian ganglion, the first question which has to be answered is naturally, What effect has this proceeding upon the pain? Up to the present time we are able to give a satisfactory reply; all the five patients whom I have treated in this way have remained free from the typical and terrible paroxysmal attacks from which they had previously suffered. It is true that my first case was done only twenty-two months ago, and the last only sixteen days; consequently it is too early to speak with confidence as to the permanent character of the relief; but the outlook is hopeful, and is sufficiently encouraging to lead me to continue in the same line of action. Absolute immunity from any kind of pain can hardly be expected after such a considerable disturbance of the structures at the base of the skull, and for some time there may persist a sore and stiff sensation about the region operated on as well as pains in the head; but these are not estimated of any moment by patients who have previously suffered such intense agony. The interference with the movements of the lower jaw is undoubtedly inconvenient, and renders the process of mastication a little difficult; but I hope that this may be avoided in the future by the removal of the coronoid process. As to the effect upon the distribution of the sensory fibres of the fifth nerve, it is interesting, both from the clinical and physiological sides, to observe the rapid diminution of the anæsthetic area, and it would appear that the distribution of sensation is taken up by the neighbouring branches, much in the same way as arterial anastomosis takes place in the vascular system. This re-establishment of sensation is a fact which cannot be disregarded prognostically, although it is not necessarily the precursor of a relapse. The appearance of the side of the face operated on is characteristic of trophic disturbance; the skin has a shiny, somewhat injected look, whilst the hollows in the temporal, pterygoid, and maxillary regions on that side clearly demonstrate the existence of muscular atrophy and cicatricial deposit. The effect upon the nutrition of the eyeball is decidedly serious. In the first case, as is well known, the organ was lost, a result of suppurative panophthalmitis, and in two of the other cases the nutritive state was for the time considerably depressed. It is probable that the trophic centres for its nutrition are contained in the upper and anterior segment of the ganglion, and if this be so, the chances of damaging the eye will be lessened by leaving this portion intact, even though the trunk of the nerve be divided behind the ganglion. On the other hand, the interference with one part of the ganglion may induce degenerative changes in the remainder which will effectually

prevent a recurrence of the malady, and yet not sufficient to cause permanent damage to the eye. In conclusion, Mr. Rose maintained that in the course of these lectures he had demonstrated (1) that in severe cases of epileptiform neuralgia both medical and surgical treatment had hitherto been unavailing to give permanent relief; and (2) that extirpation of the Gasserian ganglion through the base of the skull, though admittedly a difficult undertaking, need not endanger life, and at present holds out the best prospect in dealing with the intractable forms of trigeminal tic. (Mr. William Rose, *British Medical Journal*, February 6, 1892, p. 264.)

[See also abstract of Mr. William Rose's Lettsomian lecture on "A Method for Removing the Gasserian Ganglion," at pp. 169-173 of this volume of the *Retrospect*.]

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## AFFECTIONS OF THE CIRCULATORY SYSTEM.

### ANEURISM OF THE RENAL ARTERY.

Oestreich (*Berliner klin. Wochenschr.*, No. 42, 1891, p. 1042) has recorded two cases of aneurism of the renal artery. One occurred in a woman, fifty years old, who, three months before death, had had an apoplectic seizure. Twelve days before death intermittent hemorrhage from the bladder set in. There were severe pains in the abdomen, and a tumour could be felt in the situation of the left kidney. A diagnosis of malignant neoplasm of the left kidney was made. At the autopsy, in addition to several areas of softening in the brain, an aneurism of a branch of the left renal artery was found. The surrounding retro-peritoneal tissues were infiltrated with blood, and the pelvis of the kidney was filled with coagula. In the second case, which occurred in a young man who died of multiple embolism in association with malignant endocarditis, the aneurism involved the right renal artery, and had occasioned no symptoms. (*Medical News*, January 30, 1892, p. 132.)

### ANGINA PECTORIS.—Note on Posture in.

Huchard (*Revue générale de Clinique et de Thérapeutique*, No. 4, 1892).—Attacks of angina pectoris are almost always accompanied by increase of the arterial tension, and amyl nitrite owes its success mainly to its power of diminishing this increased blood tension. The theory of increased arterial tension explains the production of anginal attacks by all those causes which increase the work of the heart and vascular pressure. The author looks upon the fact of the production of these anginal



attacks by all acts requiring an effort or producing arterio-capillary spasm, as one of great importance, and lays down the following rules with regard to diagnosis: (1) Angina pectoris brought on by any effort whatsoever, by rapid walking, etc., is a true angina; (2) angina pectoris occurring spontaneously, without the intervention of any act requiring an effort, is a false angina. This is an important point in the diagnosis, for death may occur from the first form of angina, but death never occurs in the second form. It has long been known, however, that severe attacks of angina occur during the night, and Huchard lays down a third rule. (3) When a patient, subject to crisis brought on by effort, has a spontaneous attack during the night, the first rule is not defective; the attack is one of true angina. Anginal patients prefer instinctively the vertical posture. Patients suffering from repeated and frequent attacks of angina often refuse to lie down, because such a posture is intolerable. It has been shown that the recumbent posture, and sleep alone, increase the arterial tension, and the vertical posture diminishes it. This is the explanation of the nocturnal anginal attacks, and of the attitude preferred instinctively by the patients. The increased arterial tension of sleep is due not only to the recumbent posture, but also to the nocturnal auto-intoxication of the organism. Since the author's attention was drawn to this subject, he has always recommended anginal patients (especially those who have crises during the night) never to lie with the head low, and in this way he has succeeded in preventing the nocturnal crises of a patient who lived in continuous fear of death. (Dr. Williamson's abstract in *The Medical Chronicle*, March, 1892, p. 391.)

[See "Remarks on Angina Pectoris," by Dr. James F. Goodhart, at p. 177 of this volume of the *Retrospect*.]

## ENDOCARDITIS IN CHOREA.

Perhaps the best illustration of the character and course of valve murmurs in childhood—their disappearance in some cases, and in others the gradual development of obvious heart disease—is to be seen in chorea. In fatal cases of this disorder, apart altogether from rheumatism, we get, as a rule, ocular evidence of recent endocarditis which during life has given no certain sign of its presence. On the other hand, in non-fatal chorea in connection with rheumatism we may watch week by week the gradual transition from soft mitral murmur to physical signs plainly indicative of mitral stenosis. What would be the later steps of the recent endocarditis of non-rheumatic chorea which death, and death only, reveals we cannot tell. But it will not be denied, so far as clinical evidence goes, that the mitral murmur associated with such chorea will often grow by degrees

more pronounced, more blowing, and better conducted, until it becomes hard to say whether it may not be evidence sufficient of structural change. Then, and as gradually, with the recovery of the nervous disorder the heart will revert to its normal state. Putting together these facts, the anatomical and the clinical, is it too bold an inference that endocarditis is a common occurrence in chorea, that its proper physical signs are not immediately recognisable, and that the rule of it is, in this association, rheumatism being excluded, to inflict no permanent injury on the heart? (Dr. Octavius Sturges, p. 187, *The Lancet*, March 19, 1892, p. 622.)

### MEDIASTINO-PERICARDITIS.

Dr. Henry Ashby puts on record (*Medical Chronicle*, December, 1891) two cases of mediastino-pericarditis in children, aged two and seven years respectively. The cases illustrate strikingly the grave interference with the functions of circulation and respiration which this condition entails. Dr. Ashby points out that inflammation of the lax cellular tissue of the mediastinum may arise from inflammatory processes in the bronchial glands, lungs or pleura, and that the pericardium is almost always implicated, either primarily or secondarily. The consequent matting together of the important structures in these regions must necessarily seriously impair the free action of the heart, obstruct the venous flow, and diminish the arterial pulse. Hence, among the effects of mediastino-pericarditis, oedema, ascites, and chronic hepatic congestion are prominent. Clinically, the initiatory symptoms, he says, are often overlooked; there may be a history of measles or bronchitis, cough, and pain in the chest, and perhaps pericardial friction can be detected; but, as a rule, the child is first seen for ascites, for the existence of which it is difficult to account, and associated with which the liver may be found to be enlarged. In the more chronic cases cirrhosis may be suspected; but eventually general dropsy supervenes, and examination of the chest will show an increased area of dulness in the sternal region and front of the chest, provided that the anterior margins of the lungs are involved in the adhesions. The effect of deep inspiration in weakening or even obliterating the pulse, upon which stress is laid by some writers, is not always present. It was not observed in the two cases that Dr. Ashby reports. The condition is, therefore, one which may be easily overlooked; but it may be well to bear its characters in mind in the presence of cases of ascites with hepatic enlargement in young children. (*The Lancet*, December 19, 1891, p. 1409.)

[See also article by Dr. Henry Ashby "On Mediastino-Pericarditis in Children," at p. 184 of this volume of *Retrospect*.]



**MITRAL DISORDER OF FUNCTIONAL ORIGIN.**

V. de Risi has observed in cases of chlorotic and readily-excitabile girls a distinct presystolic murmur, which, in a case demonstrated by Prof. Senise, showed few interruptions. He formulates a hypothesis, based on an elaborate theoretical study, that the presystolic murmur can only be of mechanical origin, arising from an inorganic functional defect of the auriculo-ventricular orifice, namely, from functional stenosis. For the anatomical basis of this condition he quotes Paladino's anatomical description of the muscular fibres extending from the auricle to the ventricle. De Risi further tries to prove that the systolic heart murmurs which arise in anæmia are a result of malnutrition of the heart muscle, and that they must arise directly from disease of the muscular bands which extend from the ventricle to the valves (tensor apparatus). The disease of these bands causes an irregularity in the closure of the valves in consequence of abnormal contraction of the heart muscle. —*Centrblt. f. klin. Med.*, No. 23, 1891. (The Practitioner, February, 1892, p. 141.)

**MITRAL STENOSIS IN CHILDREN.—Pathology of.**

Samson's paper (*Jahrb. f. Kinderh.*, xxxii., 1 and 2) is based upon the investigation of forty cases, of which nineteen were fatal and were followed by autopsy. Two classes of this disease are distinguished, the first of which includes those cases in which there is only slight contraction of the ventricular opening, signifying the initial stage of the disease. The second class includes those cases in which the disease is well developed. In the first group the author had observed ten cases. In these were more or less firm fibrinous vegetations, making a ring-like formation around the valve, and extending upon the leaves of the valve and upon the chordæ tendinæ. In five cases the right ventricle was dilated, and in one the left auricle was hypertrophied. In two the weight of the heart was far more than was normal. In one case there was a coexisting congenital anomaly, the aorta springing from the right ventricle and communicating with both ventricles. In the last-mentioned case endocarditic vegetations were present upon the endocardium of the left auricle, and surrounded the mitral opening. Vegetations may disappear entirely in some cases, and also the symptoms which arise from them. In other cases the results are dilatation of the ventricle and insufficiency. Simple stenosis was found in nine cases; in eight of which it was funnel-shaped, in one it was slit-shaped. The funnel-shaped stenosis is the more common form in childhood, but not in adult life. The following are the author's conclusions: 1. Stenosis of the mitral valve is not a congenital malformation. 2. It is related to

endocarditis, but seldom to foetal endocarditis. In twenty-six of the author's forty cases rheumatism was a causative factor. In cases which are not of rheumatic origin the cause may consist in bad nutrition or disorder of the nervous system. Of the forty cases, nine suffered with chorea. Stenosis arising from disorder of the nervous system may consist in a valvular lesion which has been induced by violent heart action during a nervous attack. Thus a relation may be established between fright, violent heart action, chorea, and endocarditis. (The American Journal of the Medical Sciences, January, 1892, p. 105.)

### **TACHYCARDIA.—Essential Paroxysmal.**

At the New York Academy of Medicine, October 20, 1891, Dr. J. W. Brannan read a paper with this title. He had selected for discussion that form of tachycardia in which a very great acceleration of the pulse, occurring in paroxysms, was the cardinal symptom. The paroxysm might last a few minutes, or it might extend without interruption over a period of several weeks. In the intervals between the attacks the heart-beat would be normal, both in force and in frequency, and the individual seemed to be in perfect health. There was no history of rheumatism, nor were there any valvular murmurs to be detected. Four cases had come to autopsy. The entire nervous system was found intact in all, and the changes in the heart did not seem of any significance. All the other organs of the body were found free from disease. The disease was rare; only twenty-seven cases, including the author's, could be collected from data on the subject. Bouveret described the paroxysms and began by dividing them into two classes according to their greater or less duration, because of the pathological consequences which ensued if they were prolonged beyond a certain period. If they lasted more than four or five days, secondary disturbances of the circulation and respiration were set up, due to the rapid weakening of the heart, its dilatation, and the incomplete emptying of its cavities. In the short attacks there was nothing noteworthy except the extreme rapidity of the heart's action. This rapidity might attain two hundred and fifty or even three hundred pulsations a minute. It was very much like that produced by section of the pneumogastrics in animals. The pulse was usually regular but occasionally there were periods of irregularity. It was often not perceptible at the wrist, but was to be felt in the carotids and femorals. The second pulmonic sound was accentuated, showing increased tension in the pulmonary artery. Sometimes there were prodromes, such as dizziness, or a sense of constriction at the throat or epigastrium. Generally the onset was sudden; often there was no cause for the attack; at



other times it followed some strong mental emotion or physical fatigue or effort, and such causes were especially efficient during convalescence from a previous attack. The face was usually very pale throughout the paroxysm. The pupils were normal, and there were, as a rule, no vaso-motor disturbances. There might be moderate dyspnœa. Anorexia and constipation were usually present, and almost complete insomnia. There was marked diminution of the urinary secretion, but no albuminuria and no fever. In some cases the temperature was below normal. The subjective sensations were variable, sometimes epigastric oppression, pain at the præcordia, numbness of the left arm, or general chilliness. The attack ended as abruptly as it began, the pulse dropping suddenly from two hundred or more to seventy-two beats a minute. There was usually little prostration afterward. The long paroxysm, however, was much more serious because of the secondary respiratory and circulatory disturbances. There was extreme cardiac distention, as shown by the area of dulness. Sometimes there was a soft systolic murmur during the paroxysm or during the convalescence, disappearing later. The stasis in the left ventricle, auricle, and pulmonary veins caused congestion and œdema of the lungs. The patient had cough, dyspnœa, and bloody expectoration. Sonorous and sibilant râles and friction sounds were to be heard. In some cases there was pleurisy with effusion. The temperature might rise three or four degrees owing to the pulmonic process. There was marked cyanosis of the lips and cheeks, with swelling and pulsation of the jugulars. There might be agitation and restlessness at night, unpleasant dreams, and even delirium. The central disturbances were probably due to the arterial ischæmia and venous stasis prolonged for several days. The heart remained irritable during the first few days of convalescence, and a return of the paroxysm might be produced by a very slight cause, such as sitting up in bed. The extreme cardiac distension, however, disappeared in a few days. The paroxysms had ended fatally in eight of the twenty-seven cases—twice by syncope, twice by asystolic collapse, and in the other cases by pulmonary congestion or intestinal hemorrhage. In discussing the etiology of the disease, Bouveret had drawn attention to the entire absence of hysteria or neurasthenia in the cases collected by him, and there was no hereditary neurotic tendency. In most of the other cases reported it was also stated that there was no evidence of nervous predisposition. The author's patient, however, was of nervous temperament and had an epileptic son. The disease was not often observed in children. The influence of sex was not marked. Of the twenty-five cases in which the sex was noted, eleven were in males and fourteen in females.

Over-fatigue, either mental or physical, seemed to be the chief cause of the affection. Excessive smoking was also an important factor and the drinking of strong coffee. The pathology of essential paroxysmal tachycardia was still undetermined and was perhaps not the same in all cases. The majority of observers believed that we had to do with a pure neurosis, a temporary disturbance of the motor innervation of the heart. Such a disturbance might be caused in three ways—by excitation of the sympathetic, by a modification of the activity of the intracardiac ganglia, or by a temporary paresis of the vagus. It seemed probable, on review of all the evidence, that in most cases there was a paresis of the vagus of central origin. The general conclusion was that the affection was a bulbar neurosis, confined to the cardiac centres of the vagus in the medulla. The pathological evidence, however, as gathered by the author, so far as it went, suggested the theory that we were dealing with a cardiac and not a neurotic disease; this theory might, however, be exploded by the next autopsy. The prognosis was very doubtful, especially at the beginning of a paroxysm. The unfavourable factors were a tendency to syncope, extensive pulmonary congestion, great præcordial pain, and the unstable condition of the heart at the end of a long attack.

In the treatment of this disease the first thing to consider was the management of the paroxysms themselves, and, second, that of the intervening periods, with a view of preventing their recurrence. During the paroxysm the patient should rest in bed; all movements and exciting emotions should be avoided. Great caution must be exercised in examining the heart; in two cases percussion of the præcordia had caused a return of the paroxysm. As to medicinal treatment, digitalis was efficient in some cases and failed entirely in others. Morphine might quiet the attack when it was due simply to excitation of the sympathetic. Caffeine, nitrate of amyl, and nitroglycerin were all of no use. Ergotine would seem to be indicated, but had not been tried, so far as the author knew. Blood-letting might relieve the condition of venous stasis. In two cases leeches applied to the præcordial region caused marked improvement, though both of the patients eventually died. One patient was able to delay the paroxysm by taking a deep inspiration and then suspending breathing as long as possible. Dr. Wood had been able to arrest the tachycardiac paroxysms by having the patients swallow a quantity of hot or cold liquid. The influence, he thought, was due to stimulation of the inhibitory cardiac centre, produced by irritation of the peripheral nerve filaments of the stomach by the contact of the water. Compression of the vagus in the neck at the level of the thyroid cartilage was successful in slowing the heart in several cases. The use of the



biliary salts in cases of paresis of the whole inhibitory system had been recommended. Electricity was sometimes of service, one pole being applied to the back of the neck, the other to the trunk of the vagus or to the præcordia. In endeavouring to prevent the recurrence of the paroxysms the chief reliance was on hygienic measures. (The New York Medical Journal, December 26, 1891, p. 723.)

### **Tachycardia.—Treatment of.**

The most distressing affection known as paroxysmal tachycardia, or "rapid heart," has unfortunately not generally proved as amenable to treatment as could be desired; but Dr. Poulet, of Plancher-les-Mines, recently found a remedy in a little-known plant indigenous to Alsace, which appears to exert a rapid and beneficial influence over the paroxysms. The plant in question is the *Coronilla varia*, or *faucille*, which, like some other species of *Coronilla*, is sometimes used as a household remedy, being considered to have cathartic and diuretic properties. Some recent researches by MM. Spillmann and Haushalter on the closely allied species—*Coronilla scorpioides*—showed that that plant acts as a powerful heart tonic, causing an increase in the arterial tension and in the fulness of the pulse, exciting diuresis and diminishing oedema and dyspnoea—acting, in fact, very similarly to digitalis. Dr. Poulet was induced by these researches to make trial of *Coronilla varia* in heart cases. He employs a tincture made from the entire plant (1 in 5), also a powder made from the flower. The dose per diem of the tincture is from half a drachm to a drachm, and that of the powder from fifteen to thirty grains. These preparations, though they have a strong characteristic odour, are not nearly so disagreeable to the taste as those of *Coronilla scorpioides*. Details are given of two very severe cases in which these preparations of the *Coronilla varia* gave almost immediate relief. M. Poulet recommends this drug also in other heart cases where digitalis has been used, and where it seems to have been given for too long a period, or, as sometimes occurs, where it has begun to act on the gastro-intestinal canal. (The Lancet, December 5, 1891, p. 1298.)

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## AFFECTIONS OF THE RESPIRATORY SYSTEM.

### **ACUTE PNEUMONIA.—Treatment of.**

I always give in pneumonia chloral—Liebreich's chloral, none other is safe—dissolved in infusion of digitalis. The dose of chloral and of digitalis must vary with the age of the patient: for an adult I prefer to give for a first dose twenty grains of chloral in half an ounce of infusion of digitalis, the subsequent

dose being ten grains of chloral in half an ounce of infusion of digitalis every four hours, continued till the temperature falls to normal, then to be replaced by some appropriate tonic. After the first dose, if it be one of twenty grains, or after the second or third dose, if we begin with ten grains, the pain and cough cease, the patient doses all day and sleeps sound during the night; the rusty glutinous sputa either cease entirely or become changed to a scanty mucous phlegm easily expectorated, the pulse drops, the temperature falls, the disease is arrested, and the patient gradually convalesces. A jacket poultice is a useful adjuvant, which may be, however, very advantageously replaced by a sheet of cotton wool. An appropriate diet cannot, of course, be dispensed with. (Dr. G. W. Balfour, *Edinburgh Medical Journal*, November, 1891, p. 401.)

[See also article by Dr. G. W. Balfour, at p. 203 of this volume of the *Retrospect*.]

## **BRONCHITIS & ACUTE BRONCHO-PNEUMONIA IN CHILDREN.—Differential Diagnosis of.**

L. Emmett Holt (*Archives of Pædiatrics*, 1891, No. 12) believes that a very large number of cases formerly classed as acute bronchitis are really cases of broncho-pneumonia, and that this includes nearly the whole group of cases formerly described under the heading of "capillary bronchitis." In infants it seems almost impossible for an acute inflammation of the finer bronchi to occur without extension to the alveoli which surround them, unless death takes place at a very early stage. While in well-marked cases of either disease the diagnosis is not difficult, there is a large number of intermediate cases where positive diagnosis is extremely difficult. The main points of differentiation may be grouped under three heads: the difference in temperature; the severity of the general symptoms; and the character of the physical signs. Acute bronchitis commonly begins with a rise to  $102^{\circ}$  or  $103^{\circ}$ , usually after twenty-four hours falling to  $100^{\circ}$ , and remaining between this point and  $101.5^{\circ}$  for several days, gradually reaching normal. If a case begins with this initial temperature, and the fever rises on three or four successive days to  $102.5^{\circ}$  or  $103^{\circ}$ , it is almost certain that something more than bronchitis exists. If the fever is due to disease of the lungs, we may be reasonably sure of pneumonia. The existence of a lower temperature, however, does not preclude pneumonia, so that, after all, the severity of the general symptoms must have the greatest weight. The physical signs of consolidation, dulness, bronchial breathing, etc., are conclusive evidences of pneumonia, when the symptoms are doubtful; but here, again, the absence of such signs does not exclude pneumonia, even though they are never obtained throughout



the attack. The auscultatory signs to be considered are pleuritic friction sounds, the character and localisation of the râles, and the nature of the respiratory murmur. Pleuritic sounds may be looked for in broncho-pneumonia whenever there are large areas of consolidation ; but, according to the author's experience, almost never under other conditions. The character of the râles is of little help, for the reason that in broncho-pneumonia it is the bronchitis and not the pneumonia that produces most of the abnormal sounds. The localisation of the râles is of more value. Unilateral bronchitis that is only bronchitis is of very doubtful existence. The signs of localised bronchitis of the finer tubes gives a sufficient reason for diagnosing pneumonia in doubtful cases—provided, generally, that tuberculosis may be excluded. There are cases of disseminated broncho-pneumonia which give rise to generalised subcrepitant râles over the whole chest. These are the cases which the author believes have been described by many of the older writers under the term "capillary bronchitis." (The American Journal of the Medical Sciences, March, 1892, p. 356.)

### **EMPYEMA.—Surgical Treatment of.**

At the American Climatological Association, on September 23, 1891, Dr. Maurice Richardson, of Boston, read a paper upon this subject. Drainage, he considered of equal importance with asepsis or antisepsis. The most desirable object in such cases was to obtain lung expansion, and this can be best accomplished by drainage. Empyema is essentially a surgical affection, though aspiration had occasionally proven efficacious. It was often, however, dangerous, in that it led to delay in adopting surgical measures which should be resorted to early, in order to prevent adhesions and interference in consequence with expansion. The author's method of preparation for operation to secure drainage involved the most thorough aseptic and antiseptic precautions. The field selected should be scrubbed twenty-four hours previously with soap and water, and a hot-water poultice of aseptic cotton batting should be applied for twelve hours, followed by a similar poultice rendered aseptic with corrosive sublimate, which should remain *in situ* until immediately preceding the operation. He did not think general anæsthesia advisable, as it interfered with the voluntary coughing of the patient during evacuation which was important in assisting in the expulsion of pus and in expanding the lung. The point of incision was a matter of election. He usually selected the fifth or sixth interspace in the axillary line. In cases which were chronic, the cavity being closed by collapsing walls, drainage could be best accomplished by inserting the tube high up. It is good policy to consider all cases as chronic. No advantage

resulted from cutting through the latissimus dorsi and several objections could be urged. Towards the front of the axillary line the proximity of the heart was objectionable. He preferred to all methods that of a free incision two or three inches in length. Drainage-tubes should be at least three-eighths of an inch in diameter, two or more in number, fastened with a shield and supplied or not with a rubber-tissue valve according to the condition present. Valves were of advantage to create vacuum pressure where ordinary respiration fails to produce proper lung expansion. Rubber is the best material for drainage-tubes. The tube should remain in position until forced out by the filling out of the thoracic cavity, rendering it impossible to replace them. To remove clots, etc., at time of operation pure boiled water is best. Irrigation he considered unnecessary unless there was an offensive odour to the discharge. If odour existed, he had found a solution of styron, 1 to 200 beneficial. The ordinary antiseptics were dangerous, as the pleural membrane absorbed readily. He had seen systemic carbolic-acid poisoning, not only from the use of irrigation with carbolic solution, but from the application of carbolized gauze over the incision wound.

Hemorrhage could be often arrested by the pressure of the drainage-tube upon the margin of incision. The sound of ingress and egress of air immediately after operation afforded an indication of a probable favourable result. Cases of long standing and tuberculosis cases were unfavourable in prognosis. In chronic empyema resection of the ribs which was indicated was of value not in proportion to the extent of rib removed, but to the number resected. Six or eight ribs could be resected in certain cases with proportionate advantage. The contraction of the chest-wall thereby accomplished was more satisfactory than when a smaller number were resected. The length of rib removed should be equal to the depth of the cavity. He had not tried the suggestion emanating from the Harvard school of anatomy, to force together the ends of the resected ribs and wire them. The immediate results of the operation of incision and drainage, if properly done, were always gratifying if not curative. He had lost two cases in fifteen operations, death occurring from recurrence and tuberculosis. (New York Medical Record, September 26, 1891, p. 379.)

### **PARALYSIS OF THE LEFT VOCAL CORD.—Its Value in the Differential Diagnosis of Œsophageal Obstruction.**

The value of this symptom in distinguishing between aneurism and other causes of œsophageal obstruction is considerable, and in one of the cases seen this session it, to a great extent,



prejudiced my mind in favour of the aortic aneurism as the cause of the dysphagia, even although no other symptoms pointed in the same way. And while it is quite true that, in a few exceptional cases, unilateral paralysis of the muscles supplied by the inferior laryngeal nerve may be caused by other conditions, I think it is of the utmost importance to bear in mind the undoubted fact that aneurism of the transverse arch causes paralysis in the large majority of cases. Indeed, for practical purposes, it may be looked upon as the cause of paralysis in nineteen out of twenty cases. Undoubtedly, cases have been recorded in which paralysis of the left recurrent laryngeal nerve has been the result of pressure by tumours in the œsophagus, by enlarged bronchial glands, by pleuritic adhesions or fibroid induration of the apex of the left lung, by enlargement of the thyroid body, by great pericardial exudation, or by hypertrophy of the heart, leading by pressure or displacement to interference with the function of the nerve. The answer to the question, What is the cause of the paralysis? is usually easy, but in a few cases it is almost impossible to give a definite reply. In such cases, I would say, treat the case as one of aneurism of the aorta. In my experience I have seen a considerable number of these at first obscure cases, and in the large majority they have proved in the end the accuracy of the statement I have just made. (Dr. David Newman, *The Lancet*, January 9, 1892, p. 75.)

### **PERFORATING ULCER OF THE NASAL SEPTUM.**

Perforating ulcer of the nasal septum, which occurs independently of syphilis or tubercle, was first described by Zuckerkandl, and later by Weichselbaum. Hajek (*Virchow's Archiv*, Bd. cxx., p. 497) has observed thirty-three cases, and records his results. The process commences with a greyish-white discolouration in the superficial layers of the nasal mucous membrane, which is shown by the microscope to be caused by swelling of the epithelial cells, and the formation of a fibrinous substance between them. This becomes necrotic, a pseudo-membrane is formed, which falls off and leaves a small ulcer with sharp outlines. Through repeated formation of false membrane and its detachment the ulcer gradually becomes deeper until the cartilage is exposed. This is attacked in its turn, unless, indeed, perichondritis has not been at the root of the mischief. The cartilage finally becomes broken down, and there is, when the inflammation of the mucous membrane has commenced on both sides, complete perforation. If the necrosis has only attacked one side, the mucous membrane on the other will be destroyed after the cartilage has given way. The edges of the perforation become smooth, and scar tissue is formed. As a

result, a well-marked perforation is seen, circular in form, and with sharp, smooth edges. This perforating ulcer has itself no connection with syphilis or tuberculosis. It is found almost entirely, however, in individuals suffering from tuberculosis in other organs, especially the lungs. The disease also appears to have no connection with diphtheria. The author cannot speak with any certainty as regards the etiology of the condition, but it is important to note that in the necrotic portion which is thrown off micrococci are found which, owing to their number and confinement to the diseased spot, may with some probability be considered the cause of the disease. (The Lancet, December 5, 1891, p. 1295.)

### **PHTHISIS.—Creasote in.**

At the New York Academy of Medicine on November 17, 1891, Dr. Beverley Robinson read a paper entitled "Creasote in the Treatment of Pulmonary Phthisis." Dr. Robinson stated that he considered creasote as the most valuable medicinal agent we have at the present time for treating pulmonary tuberculosis. In nearly all cases marked improvement in the symptoms follows its use. The cough is much diminished in frequency and severity; the expectoration is diminished in quantity and changed in quality; the nutrition is improved; the weight is increased; there is augmented strength and activity; costiveness of the bowels is relieved; night-sweats often disappear. Even in the advanced stages of the disease, when cavities are present, the cough is sometimes ameliorated. The temperature is often favourably influenced by the drug. In several instances the bacilli have entirely disappeared from the sputum, as proven by repeated microscopical examinations. In some cases the expectoration stopped entirely. The physical signs in these cases were also improved. The moist râles disappeared, the breathing became less harsh, and the areas of consolidation smaller. In some cases in which cavities were present at the apices, a marked degree of contraction had followed the use of the drug. There are few contra-indications for the use of creasote, and these few can usually be obviated by its careful administration. Occasionally the stomach does not tolerate it. It may produce headache, or abdominal pain. These unpleasant manifestations may be due to a too rapid increase of the dose, or to a personal idiosyncrasy of the patient. They are to be overcome by diminishing the dose or interrupting its use for a while. If the drug occasions diarrhoea, the same rules apply, or an opiate can be added to each dose. As to the effect of the drug on the kidneys, Dr. Robinson said that usually it is not present in the urine, although it is found there occasionally, and in some cases he has recognised a passing albuminuria. When



large doses of creasote are given the urine should be examined every few days. In cases of already existing renal trouble he has observed no ill effects from the use of the drug. In regard to hemoptysis, it is claimed that creasote in appreciable doses causes congestion of the bronchial mucous membrane and induces hemoptysis. Dr. Robinson said that nothing in his experience corroborates this view. In regard to the drug itself, the best form to use is that obtained from beech-wood. Much of the so-called creasote that is dispensed in the drug-shops is composed of impure carbolic acid. As for the dose, he begins with small quantities, from one-half to one minim three or four times a day, and later on every two or three hours, if the stomach will tolerate it. Gradually carry it up to from twenty to twenty-five drops in twenty-four hours. One of his patients had taken as much as seventy-two drops daily. Dr. Robinson said that he had never recognised the advantages of the subcutaneous use of the drug, excepting that larger doses may possibly be administered in that way. Frequent and long inhalations of the drug he regards as extremely useful as an adjunct to its internal administration. The inhalations often improve the condition of the larynx and relieve an obstinate cough. His favourite method of inhalation is by means of the perforated zinc inhaler. For the purpose of inhalation the drug must be combined with alcohol, one dram to the ounce, to prevent irritation.

Dr. William H. Flint stated that his attention was first called to the value of creasote as a therapeutic agent in phthisis by Dr. Robinson's admirable article on the subject, published some years ago in the *American Journal of the Medical Sciences*. He had used it uninterruptedly since that time and regarded it with continually increasing favour. He usually administered the drug in the form of a pill, in which form he thought larger quantities could be borne by the stomach. (*Medical News*, December 19, 1891, p. 718.)

### **PLEURAL EFFUSION.—Antipyrine in.**

Clement, in the *Lyon Médical*, commends the value of antipyrine in the treatment of acute and chronic pleural effusions. The drug, to be effective, must be given in doses of about fifteen grains every four hours, and continued in somewhat smaller doses for several days after the disappearance of the effusion, a result which, he states, may be expected in from one to four days. Purulent or bloody effusions are not favourably affected, and when the pleural cavity is completely filled, Clement prefers immediate resort to paracentesis. He is at a loss to explain this singular effect of the drug upon any other ground than its specific action upon inflammatory processes, the kidneys or skin

never having shown sufficient over-activity to account for the rapid subsidence of the effusion. (The American Journal of the Medical Sciences, November, 1891, p. 529.)

### PLEURISY.—Etiology of.

In a paper on this subject in the *Boston Medical and Surgical Journal* of February 25, 1892, Dr. G. G. Sears draws attention to the frequency with which phthisis follows an attack of acute pleurisy. He has collected the reports of 451 cases from various observers, of which 176, or 39 per cent., developed phthisis or other well-marked tubercular affection. Constan and Dubrulle, from their army experience, say that soldiers who have suffered from pleurisy are no longer fit for military duty, and that a majority die later of phthisis. An exactly opposite opinion is held by Blachez, who mentions an epidemic of pleurisy which occurred several years ago without the subsequent development of pulmonary disease in a single case. Westbrook, Vickery, and others have reported cases which were followed by phthisis, and from a review of the recent literature there seems to be an increasing tendency to ascribe to the tubercle bacillus a more and more important rôle in the causation of pleural effusions; but as the pendulum of medical opinion is proverbial for the length of its vibrations, it is fair to ask if in the present instance it is not tending to swing too far in this direction. The frequent occurrence of pleurisy as a complication of pneumonia, rheumatism, measles, and other infectious diseases where no doubt exists that it is the same in origin, suggests the question if so-called idiopathic pleurisy may not at times be due to the same causes, which for some reason affect only the pleura—a question which the discovery of the pneumococcus in pleural effusions not secondary to pneumonia goes far towards answering, while the reported curative effect of salicylic acid in many cases suggests its being at times a local manifestation of rheumatism. From any series of cases similar to that given above a certain number must be deducted for those who have developed phthisis in the natural order of events without the incidence of a previous pleurisy, while the part which a latent tuberculosis of the bronchial lymph glands may take in the subsequent onset of a more general process must also be considered. In concluding his paper Dr. Sears says that we may consider a very fair proportion of cases of acute apparently idiopathic pleurisy with effusion are followed by phthisis. In some of such cases the pleurisy is doubtless of tubercular origin, and is its earliest expression, just as hemorrhage may be the first symptom and not the occasion of pulmonary tuberculosis, while of the cases which remain permanently well, in view of the spontaneous recovery of tubercle in other situations it is



fair to assume that a certain number are due to the same cause, the process remaining local. In others, though itself benign, pleurisy may be the cause of grave disease, by dislodging the bacilli from their comparatively harmless position in the bronchial glands, or favouring the development of phthisis by crippling the movements of the lung. (The Lancet, March 26, 1892, p. 713.)

### PLEURITIC EFFUSION.—Salicylate of Sodium in.

Dr. Charles Talamon calls attention (*La Médecine moderne*, June 18) to the prompt and efficient action of salicylate of sodium in the treatment of pleurisy with serous effusion. He gives the histories of five cases, in all of which the administration of the drug was followed by the rapid absorption of the fluid. In three of the cases thoracentesis had already been twice performed, but the liquid had accumulated as abundantly as before. Salicylate of sodium was then given, and at the end of a week the effusion had entirely disappeared. A marked diminution of the fluid was appreciable as early as the second or third day of the treatment. In discussing the mode of action of the salicylate, Talamon is not inclined to agree with Stiller, who believes that it acts simply as a diuretic. It is true that in two of his cases the amount of urine was increased rapidly from two to four and six pints a day. But, as he observes, diuresis can be provoked by other drugs, and yet the pleural effusion remains unaffected. Besides, in the three other cases the absorption of the fluid was affected just as rapidly, though there was no polyuria. The author thinks that the experiments of Rosenbach and Pohl have a very important bearing on this question. They have proved that the salicylates, when introduced into the digestive tract, are to be found later in all the serous cavities of the body, those that are normal as well as those in a morbid condition. Hence they even advise the direct injection of the drug into the pleural cavity after the evacuation of the liquid by aspiration. The salicylate would then have direct action upon the inflamed pleura and the remaining exudation. Whatever its mode of action, Talamon holds that the therapeutic value of salicylate of sodium in these cases is undoubted. It should be given for a week, the dose being fifteen grains four to six times a day. The more recent the pleurisy, the more prompt the action of the drug. But it is of service at any time during the course of the disease and is especially indicated after thoracentesis, to complete the absorption of the fluid and prevent its re-accumulation. (The New York Medical Journal, January 2, 1892, p. 27.)

**Pleuritic Effusion.—Treatment of.**

It is to be regretted that we have no satisfactory records to show us what is the normal course of cases of moderate effusion without treatment. The tendency is, no doubt, to spontaneous subsidence, and the only practical question is whether by the administration of drugs or operative interference we can materially hasten the natural process. It is now generally admitted that many of the methods of elimination formerly in favour are either useless or injurious. The administration of diaphoretics, diuretics, and hydragogue purgatives would seem to exercise slight influence over the effusion, and in view of the facts that pleurisy is always accompanied by a good deal of debility, and that a considerable number of cases become tubercular, depletory measures should not be pushed too far. Two remedies, however, maintain their position—viz., counter-irritation either by cantharides or iodine, and the administration of iodide of potassium. My experience would incline me to think that both these remedies are helpful, and tend to promote absorption. The addition of the ammonio-citrate of iron to the iodide of potassium seems often very advantageous, especially if the case tends to become chronic. The great question, however, in this connection is whether aspiration should be performed, and, if so, how soon. In certain cases the necessity and advantage of aspiration are universally admitted. If the amount of the effusion be very large and dulness extend as high as the second rib in front, or if the measurement of the affected side be markedly increased, or if there be much dyspnoea, in such cases there can be little doubt we ought to perform aspiration without delay. The difficulty of decision is rather in that large group of cases where the effusion is moderate in amount and where there is very little dyspnoea or other disquieting symptom. The questions arise with regard to such cases: (1) Does aspiration lessen the chance of a fatal issue? and (2) Does aspiration shorten the duration of the disease? The first question may be dismissed, as a fatal issue in such instances is so rare that it is hardly a factor in the case. The second question is a very interesting one, but the difficulty of determining it is very great. I have collected a considerable amount of evidence, both from my own practice and from other sources, with a view of determining whether (in the class of case now under consideration) aspiration hastens recovery; but I find it impossible to draw any secure conclusions. One practitioner inclines to tap frequently and to tap early, and his statistics will be very favourable to aspiration. Another reserves tapping for serious cases with large effusion, or for chronic or semi-chronic cases, and his statistics will be unfavourable. My own experience inclines me to the view



that, apart from urgent symptoms or excessive effusion, there is no advantage in tapping during the first fortnight, the fluid accumulating again and again if the tapplings be repeated. If, however, the third week progresses without some decided evidence that the fluid is ebbing, or if at this period there is any increase of the effusion, tapping should probably be performed. One way to throw some light on this question would be to compare the best results obtained with and without tapping. I find that there is very little difference to be observed. Several of my cases in which tapping was not performed were convalescent in three weeks, and I have no evidence that tapped cases ran a less course than this. Nevertheless, the good effects of tapping in suitable cases are often very striking. (Dr. Lindsay, Physician to the Belfast Royal Hospital, *The Lancet*, January 9, 1892, p. 82.)

### **PNEUMONIA.—Treatment by Digitalis in large doses.**

Dr. Sigmund Lowenthal gives a very careful review of the literature (*Centralbl. f. Gesammte Therapie*, 1891, Heft xi. S. 541). He uses a daily dosage of forty-five to sixty grains of selected leaves in the form of infusion until the crisis, which came on the third or fifth day after the commencement of his treatment in his twelve cases, all of which were dismissed cured. His conclusions are: Fever but slightly influenced; the pulse-rate frequently reduced, but with this reduction came often a rise in the rate of respiration (relative dyspnoea); urinary analysis as is usual in pneumonia; expectoration frequently difficult; marked adynamia; heart weak, circulatory disturbances; in this method of using digitalis we do not obtain a specific action. The author remarks that in certain cases where from circulatory disturbances digitalis is indicated, he has had brilliant results from a single dose, size above noted. (*The American Journal of the Medical Sciences*, January, 1892, p. 73.)

### **SYPHILIS OF THE PLEURA.**

Nikulin (*Berlin. klin. Wochenschr.*, October 5, 1891) discusses the occurrence of syphilitic pleurisy, and contributes two cases that have come under his observation. Three forms of the disease may be distinguished: (a) that in which syphilis has spread from the lungs to the pleura (syphilitic pleura-pneumonia); (b) that in which syphilis has set up costal periostitis and then spread from the bony chest walls to the pleura (peripleuritis syphilitica); (c) primary syphilitic pleurisy. The first of the two cases recorded by Nikulin belongs to class (b). The patient a man aged forty-five presented the symptoms of right pleuritic effusion with accompanying costal periostitis. Direct evidence of syphilis was not forthcoming, but the rapid improvement

which followed the administration of potassium iodide satisfied Nikulin as to the specific nature of the malady. The second case was that of a man, aged forty, with a strong syphilitic history (chancre, cutaneous, and glandular affections), who came under treatment for extensive bilateral dry pleurisy. Various general and local remedies were tried, without removing the loud friction sounds, although some of the other symptoms—cough, dyspnoea, pain, feverishness—diminished in severity. The administration of potassium iodide, however, produced a marked effect, and before long every symptom of illness had vanished. Here, too, the results of treatment satisfied Nikulin that the case was one of syphilitic pleurisy. (Supplement to the British Medical Journal, October 24, 1891, p. 130.)

## **TUBERCLE BACILLI IN THE SPUTUM.—**

### **Diagnostic and Prognostic Value of.**

At the Medical Society on February 29, 1892, Dr. F. J. Wethered read a paper on the Diagnostic and Prognostic Value of Tubercle Bacilli in the Sputum. Since the discovery of the tubercle bacillus in 1882 by Koch, much has been written in regard to the value of a search for this organism. He wished to make a few additions to what had already been published on the aid to diagnosis furnished by the tubercle bacillus from his own experience, and also to comment on its prognostic signification. As to the method of staining, after trial of several methods he had always reverted to the Neelsen-Ziehl process of staining in a carbolic acid solution of fuchsine and decolourising in a 25 per cent. solution of sulphuric acid. The chief points to which attention should be directed to procure successful results were: to select the early morning sputum; to pick out the small opaque particles; to stain for two minutes in the heated stain; to thoroughly take out the red stain with the acid, a quarter of an hour not being too long, although a minute was usually sufficient; finally, to counter-stain in methylene blue. There were still some medical men who viewed with a considerable amount of scepticism the value which was to be attached to the presence of tubercle bacilli in the sputum; but the various papers which had been published had conclusively proved their true value. Roughly speaking, a positive result—that is to say, their presence—was absolutely diagnostic of a tubercular process going on somewhere in the respiratory tract; but a negative result, their absence, was practically of no value. It was in those cases in which the history and physical signs were not clear enough to warrant a diagnosis of tubercle that a bacteriological examination was of value, especially when phthisis was masked by bronchitis or



emphysema. In obscure laryngeal cases it was also of value, as a differential diagnosis from syphilis might thus be established. A negative result did not by any means absolutely exclude phthisis, even though several examinations of the sputa might have been made. As regards prognosis, he had come to the conclusion that little could be learnt from the numbers and distribution of the organisms. The mere fact of their presence naturally increased the gravity of the case, but beyond this he did not think it was safe to go, the general aspect of the case being a surer guide. He had found bacilli to be very few when the disease was progressing rapidly, and to be numerous when the patient was recovering. Examination of unstained specimens would often lend aid, and especially ought the leashes of elastic tissue to be carefully sought for. (*The Lancet*, March 5, 1892, p. 530.)

### **TUBERCULOSIS AND BRONCHO-PNEUMONIA (ACUTE AND CHRONIC).—Their Differential Diagnosis.**

At the American Pædiatric Society, in September, 1892, Dr. William Osler, of Baltimore, read a paper on this subject. The following were suggestive points: (a) the frequency of lung tuberculosis in infants. Recent observations had shown that the disease was more common than we had supposed. Of five hundred autopsies in children reported last year from the Munich Pathological Institute, in one hundred and fifty tuberculosis was present, and in over ninety-two per cent. of these the lungs were involved. (b) The circumstances under which tuberculous broncho-pneumonia might occur. It might develop in a well-nourished infant with healthy antecedents. A case was mentioned showing indisputably that infection had taken place in a child, without any hereditary taint, through exposure to an atmosphere contaminated with tubercular bacilli. The prevalence of infection through the lungs had been strikingly shown in the recent paper by Northrup. The author had not seen an instance of pulmonary tuberculosis in a child in which the mediastinal glands were not involved. Broncho-pneumonia associated with the infectious diseases never of itself terminated in tuberculosis. When this event happened, it meant either a preparation of the soil by the occurrence of catarrhal processes or a lowering of the tissue resistance. (c) *Clinical Types*.—An acute pneumonic form of tuberculosis in infants the reader had never seen. The anatomical condition in children was almost always either lobular or pseudo-lobar—that was to say, the lobe looked uniformly involved, but there were between the areas of consolidation strands of air-containing tissue. Three groups of cases might be recognised. In

the first the onset was sudden and the course was acute. Physical signs showed areas of consolidation at the apices or central portions of the lungs, and numerous râles. The post mortem showed numerous foci of broncho-pneumonia. In the second group the features were those of a severe inflammation of the lung. Death might occur after an illness of from three to six weeks. The post mortem in a case reported had shown consolidation of the upper lobe, which had contained caseous masses, and both lungs had been stuffed with tubercles. There had been an acute tuberculous bronchitis in the smaller and larger branches. The bronchial glands had been very large, and one had contained a tuberculous abscess. The third group embraced cases in which, following a bronchitic attack or measles or whooping-cough, the child had fever of moderate degree and loss of flesh. The onset might be insidious in this way, or, as was sometimes the case, more abrupt and stormy. There was defective resonance at the upper and middle portions of the lungs, and moist râles. The further course showed signs of softening and breaking down of the lung tissue. (a) *The Diagnosis.*—In the acute cases we could often say whether the affection was simple or tuberculous in its nature. The tuberculous disease was more apt to invade the central portion. In infants under two years lobar pneumonia was extremely uncommon, while, on the other hand, tuberculous broncho-pneumonia was frequently met with. In differential diagnosis physical signs and symptoms could not be relied upon, and we had to fall back upon the personal history of the child and its parents and the antecedent illnesses. The broncho-pneumonias after measles and whooping-cough were more likely to be tuberculous than those which followed scarlet fever and diphtheria. (The New York Medical Journal, December 12, 1891, p. 666.)

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## AFFECTIONS OF THE DIGESTIVE SYSTEM.

### ACUTE YELLOW ATROPHY OF THE LIVER.

Burckhardt (*Correspond. Bl. für Schweizer Aertze*, Aug. 15, 1891) reports the case of a widow, thirty-two years old, who, after profound emotional depression, developed jaundice, followed in turn by delirium, with but slight elevation of temperature, death taking place in coma. The autopsy confirmed the diagnosis of acute yellow atrophy of the liver. Burckhardt takes occasion to controvert the view that acute yellow atrophy is always the result of phosphorus-poisoning. In the former the primary enlargement of the liver and the colicky pains of the latter are wanting, while the maniacal



manifestations of acute atrophy are absent in phosphorus-poisoning. Examination has thus far failed to find phosphorus in the organism in acute yellow atrophy. From the absence of fever in, and the sporadic appearance of, acute atrophy, Burckhardt is unwilling to place it in the category of infectious diseases. He would rather ascribe the symptoms to the absorption of abnormal products developed in the course of parenchymatous inflammation of the liver induced by an unrecognised noxa. (The Dublin Journal of Medical Science, March, 1892, p. 202.)

## APPENDICITIS.

At a special meeting of the Philadelphia County Medical Society, on September 28, 1891, papers on appendicitis were read by Drs. Price, Keen, and Morton. In the discussion which followed Dr. Pepper said: Assuming that the subject under discussion included all the acute inflammatory affections of the appendix, cæcum, and circumcæcal tissues, much had been said to which he should take strong exception from the standpoint of a pure medical practitioner. He believed that if every patient with appendicitis was operated on the mortality would be tenfold what it now was. For more than a quarter of a century he had been in the habit of seeing a great many cases of appendicitis every year. He based this statement partly upon the classical researches of Dr. Fitz, who had demonstrated more clearly than any other that in a large proportion of cases of right iliac trouble the appendix shared in the trouble, if, indeed, it was not the starting-point of the trouble. Now, as a general rule, these patients recovered under medical treatment and remained permanently well afterward, no surgeon being associated in the treatment of the case. In no year during the past two decades had he failed to see a considerable number of cases of this kind, and the cases that had demanded operation, as contrasted with those which had ended in perfect recovery without operation, were probably at least as one to a score. He thought that the assertion that as soon as appendicitis was suspected the surgeon should be called in was quite out of accord with the experience of physicians the world over. In the vast majority of cases, in first attacks at least, the disease underwent resolution, and terminated with some more or less permanent injury to the appendix, but without going on to the production of abscess, provided the treatment was instituted early and kept up faithfully. In many of these cases there was early development of induration and fulness in the right iliac fossa, and in proportion as this appeared early was it likely that the case would run a favourable course, or, if there were subsequent signs of suppuration, it would admit of treatment

by the simple Willard Parker extraperitoneal incision. In proportion as the symptoms were violent, without localising phenomena in the right iliac fossa, was there danger that rupture of an abscess had occurred, to be followed by the development of general peritonitis. He was entirely at one with the speakers who insisted on early operation where this latter condition existed. He had had the operation performed as early as thirty-six hours from the initial symptom, and had found suppurative peritonitis already present. He was sorry to say that in this case there had been a fatal result, as would sometimes happen in the hands of the most skilful operator. He thought that the experience of all would confirm the statement that the operation was a grave one. The operation of laparotomy for disease of the appendix, whether it was exploratory or radical, was not a trifling operation, and he had rather extensive records to show that it was an operation attended with a great deal of danger, even in the hands of the most brilliant operator. He would protest against the view that, as soon as the diagnosis of appendicitis was made, an operation should be encouraged. He believed that it was possible to note the time, in a certain large proportion of such cases, when the symptoms indicated the spread of inflammation, and then he thought that the operation could not be too promptly performed. The question of diagnosis remained, in spite of all the good work that had been done, a most difficult question. The McBurney point he believed to be largely without value, uncertain in its location on account of the very varying relations of the appendix, apt to be mistaken for points of tenderness due to wholly different causes, and apt possibly to be mistaken for sympathetic tenderness of nerve points in the abdominal wall. He therefore believed that this sign, from which much had been hoped, would prove to have very little positive diagnostic value. The rectal examination had seemed to him to be of very material value; it was true, not so early as we could wish, but in many operative cases he had found the roof of the pelvis altered as determined by a careful rectal exploration. He felt that he was wholly incapable of putting in words, and he did not know that this had been done, the exact differential diagnosis of the cases which demanded early operation. While this was true, he would still urge the view that this did not justify the subjection of every patient with appendicitis to laparotomy. He trusted that we should learn to arrive at a more exact differential diagnosis. There was a combination of a certain history of the development of the case which, taken in connection with the *facies*, the general symptoms, and the abdominal condition, as determined by external and by rectal examination, would, in the hands of an



experienced clinician, serve in the great majority of cases as a basis for this diagnosis. It was difficult to state this in terms as precise as we would state the terms of a diagnosis of encysted pleurisy, but he thought that those who had studied these cases would recognise a *tout ensemble* which admitted of a diagnosis of those cases which should be subjected to early operation. He believed, on the other hand, that in the great majority of cases we were justified, either by the mildness of the symptoms or by the localising tendency in the right iliac fossa, in urging medical treatment, and this was further justified by the very frequent recovery in these cases. Lastly, he would say a word as to his entire opposition to operation in the majority of cases in the interval between recurring attacks. He thought that medical records would show too many cases where thorough treatment—hygienic, dietetic, and medical—had been followed by complete cure. He had had so many such cases in which cure had occurred after a number of recurrent attacks that the adoption of a general rule that where a patient had had two, three, or more attacks he should be subjected to a grave operation like laparotomy seemed to be a dangerous postulate. He thought it better to secure the consent of the patient to the performance of the operation should alarming symptoms make their appearance in any attack, and then to persevere with carefully regulated medical treatment. There were cases unquestionably where the conditions of the patient, the fact that he might be attacked when out of reach of skilful surgical aid, made it necessary for the patient to decide between a change in his habits of life and an operation. These were exceptions, and it did not follow that a general rule that laparotomy should be performed in the interval between recurrent attacks of appendicitis should be laid down.

Mr. Thomas Bryant, of London, assumed that the term appendicitis as here used included all those cases which had been spoken of as typhlitis, as perityphlitis, and by other names, all of which have probably more or less connection with the appendix itself. Starting with that assumption, he at once proceeded to the treatment of appendicitis. Here at the beginning, although a surgeon, he agreed very strongly with the observations of Dr. Pepper. He was convinced that operative treatment was most valuable in appendicitis. He was equally convinced that delay in operating was the wisest course in the majority of cases. It seemed to him that the authors were a little mixed in regard to the classification of these cases. They had included cases that were acute from the beginning with cases that were not acute, that had a slow and steady course. The cases that had a slow and steady progress, that began with localised pain in the right iliac fossa, accompanied

with tenderness and soreness, less swelling without any very acute symptoms, were cases which one must feel could be dealt with satisfactorily without the surgeon's knife; he would not say without the surgeon's aid, but without the surgeon's knife.

Dr. Morton had spoken strongly of the use in these cases of calomel and podophyllin. Such statements had rather startled him, and he would have been glad to have some evidence of its value given. He would prefer to follow the line of treatment suggested by Dr. Pepper, and not give calomel and podophyllin in frequently repeated doses. He would rely more upon rest, belladonna externally and opium internally, and diet, believing and knowing that by such means the bulk of the cases were permanently cured. In exceptional cases, where these good results did not occur and graver symptoms appeared, the swelling increased, and symptoms of peritonitis developed, the surgeon's aid became of immense value, and certainly where these symptoms did appear and there was a steady progression toward the bad, it was unquestionably time for the surgeon to take a hand. In all acute cases he had no doubt as to the right of the surgeon to interfere. He had seen cases where within thirty-six hours after such acute symptoms it had been necessary for the surgeon to expose the part and let out the inflammatory fluids, if not remove the appendix itself. To his mind these two classes of cases which he had briefly described fairly indicated the line that the surgeon should take—trusting very much to expectant treatment in the least acute cases and surgically interfering early in the acute. In reply to the question in regard to the propriety of operating, whether or not the surgeon was justified in operating between the attacks, his judgment would decide in the negative. In the majority of cases there was no second attack. If there was a second attack it could be treated on the same lines as the first, only there was a tendency toward interference if the symptoms did not settle down rather rapidly. He said this because he was sure that he had seen many instances where things had settled down after a second attack without any further trouble. Because he had met with cases that after the second, third, fourth, or it may be the eighteenth attack, had at last come to the surgeon's knife, he thought that we should not accept that as a decided evidence in favour of surgical interference. In fact, we must be governed by each case by itself, and we should surgically interfere only when we found small chances of Nature terminating the case guided by medical skill. Then we came to the operation. He was not sure that he was quite in accord with the authors of the papers. It was quite true that in doubtful cases of appendicitis—cases in which one did not expect to find a great deal of pus or inflammatory fluid—the incision in the right semilunar line



would probably be the best. In this way one came down readily on the cæcum, and was more apt to find the appendix. The majority of cases with which the surgeon had to deal were not quite in the stage to which he had referred. There was generally much more diffused swelling about the cæcum, and that swelling gravitated backward and upward, sometimes towards the loin. He could recall a good many cases in which he had operated where he had been certain the swelling was about the cæcum, but where it was backward toward the lumbar region. He could recall several instances in which his attention had been drawn more to the lumbar region than to any other part, and it had been only by going into the history that he had concluded that the trouble was located in the cæcum. The lateral incision was a good one in these cases, but it must be more lateral than the semilunar line. He had made his incision well back, corresponding to the line of the anterior superior spinous process and tending backward toward the loin. In this way one got well at the cæcum, and one's finger could be readily passed into the iliac fossa. One could examine the part, one could drain the part well and generally by the open treatment, not being too careful to stitch the wound, and a good result would take place. He would say that in a large number of cases—his friends might say neglected cases—an incision more posterior than the semilunar line would be the better one. The incision in the semilunar line should be reserved for cases that had not advanced to such an extent as he had just indicated. Another point to which he would like to allude was the question of whether or not these were all really cases of appendicitis. In at least three instances of cases which had presented a history of a cæcal trouble, but in which death had resulted from some other cause, he had found cicatrices in the posterior part of the cæcum some distance from the appendix. In two cases that he had treated the evidence had pointed to the cæcum as the seat of trouble. In one, in a boy aged twelve years, he had incised an abscess, and eventually a large orange-seed had escaped. He had no reason to believe that that could have come from the appendix. In the second case a piece of bone that had been swallowed had evidently passed through the wall of the cæcum and caused suppuration. These two cases had presented all the features of typical appendicitis. They had been dealt with in the way that he had stated and both patients had recovered. We must, he thought, bear in mind that these cases were not all due to disease of the appendix, and that many of them might have no connection with it. This brought him to another point, and that was as to whether or not, under all circumstances, it was expedient to search very carefully for the appendix. In these severe cases should we disturb the parts so

much as was often absolutely necessary? We have had good evidence of the difficulty of finding the appendix in some cases. He had always felt that in these cases we should do more harm than good if we searched too far for the appendix. He was satisfied with well irrigating the part and treating it by the open method. (New York Medical Journal, Oct. 24, 1891, p. 474.)

### CANCER OF THE TONGUE.—Use of the *Écraseur* in.

In comparing the *écraseur* with other methods of operating for cancer of the tongue, I have not the slightest hesitation in giving it preference as being the one most adapted for general use. For experienced anatomists, fresh from the dissecting-room, ligature of the linguals in the neck has its obvious attractions. Even in their hands, however, it has been occasionally found that, contrary to expectation, the arteries would pour forth blood when divided in the mouth; nor clearly can this operation be commended as one adapted for surgeons generally; it needs great and constant practice for its skilful performance. Operations by means of the scissors, Whitehead's method, etc., are again chiefly suited for those who have a good staff of trained assistants, and they are even in such hands by no means always exempt from very serious losses of blood. To many of those who are the subjects of cancer of the tongue any material loss of blood is a matter of grave moment. These patients are often old and debilitated to begin with, and I cannot but think that it is the hemorrhage at the time of the operation, and not anything in the condition of the wound subsequently, which is the great source of danger; hence the strength of my plea for the bloodless method by the *écraseur*. Not only is the loss of blood in itself important to the patient, but bleeding into the mouth in one who is under an anæsthetic is always, as is well known, attended by risk that blood may find its way into the air-passages. Secondary pneumonia, which has so often proved the cause of death, is, it may be suspected, quite as often due to this accident as to the secretions from the wound. At any rate, the fact remains that the *écraseur* wounds heal well, and do not poison the lungs. I have come to regard excision of the tongue as a procedure which does not really involve any risk to life. (Mr. Hutchinson, p. 285, Liverpool Medico-Chirurgical Journal, January, 1892, p. 222.)

### CHOLECYSTECTOMY.

An interesting *résumé* of the indications for the performance of cholecystectomy, and the technique of the operation, is given by Guillemain (*Gaz. Heb. de Méd. et de Chir.*, No. 39, 1891). The indications for this operation are usually considered to be



covered by the following conditions: traumatic or spontaneous perforation of the gall-bladder, tumours, rebellious hepatic colic, or persistent biliary fistula, the operation being contra-indicated only by very extensive adhesions or by occlusion of the common duct. Removal of the gall-bladder under all these circumstances is perhaps too radical, since cholecystotomy, with or without the formation of a fistula, or cholecystenterostomy, may sometimes take the place of the more radical operation.

In performing the operation median incision should be made, since this allows of more thorough exploration, and, moreover, renders the cystic duct more accessible. The incision should be made of sufficient length to give the operator sufficient room to manipulate below the umbilicus, if necessary. As soon as the abdominal cavity is opened, the omentum and intestines should be carefully protected by sterilised compresses or sponges, whilst the surgeon exposes the anterior portion of the gall-bladder. Frequently it is necessary to puncture this and discharge its contents, to lessen the danger of infecting the general peritoneal cavity. When this has been done, the gall-bladder is incised and the finger is introduced for the purpose of exploring its cavity and removing calculi. This latter object is thoroughly accomplished by means of forceps and curette. If the gall-bladder is fully freed, the biliary ducts should be carefully explored by palpation and by means of catheters. A calculus lodged in the ducts can usually be readily felt by passing the finger along the course of the latter. If the surgeon fails to pass the catheter this does not necessarily denote that the duct is occluded, since the passage may be either very small or temporarily closed from external pressure. The gall-bladder usually contracts firm adhesions with the neighbouring organs, and separation of these organs constitutes one of the most difficult steps of the operation. This should be accomplished by blunt dissection as far as possible, all bleeding portions being secured immediately by means of the hæmostatic forceps. When the inflammatory adhesions have been entirely separated the gall-bladder must be loosened from its normal attachments to the lower surface of the liver. This also should be accomplished by blunt dissection. Often the gall-bladder is surrounded, particularly where it is in contact with the liver, by a fatty degeneration forming an investment from which it can be enucleated, leaving this fibro-fatty capsule as a barrier between the seat of operation and the general peritoneal cavity and allowing free drainage in the latter. When the gall-bladder is fully freed, isolation and ligature of the cystic canal constitutes the next step in the operation. This is exceedingly difficult. The ligatures should be applied as deep as possible without including the right branch of the hepatic artery or the common

duct. The ligature should be of silk, and the portion left after division should be very carefully disinfected either by solution of bichloride, 1 : 1,000, or by means of the thermo-cautery. So far as it is possible, there should be an effort made to form a cavity separated from the general intra-peritoneal space in which the drainage-tube is placed. This may be accomplished by suturing to the parietal perineum the right border of the great omentum and utilising in a similar way, when these structures exist, the ligamentous connection between the liver and colon, so as to form between these a furrow in the deep part of which lies the divided duct, and in which the bile will be poured out in case the ligature slips. The seventh day the drainage-tube is removed. The complications of this operation are hemorrhage, peritonitis, and septicæmia, usually due to some fault on the part of the operator, and effusion of bile into the peritoneal cavity. The last complication is most to be feared, and takes place when there is occlusion of the common duct. Of 78 cases collected by Calot, 64 were cured, and 14 died ; this gives a mortality of about 18 per cent. The majority of cases, however, perished from causes not directly due to the operation, hence the true mortality, as far as the surgical procedure is concerned, is 8·9 per cent. According to Langenbuch, after cholecystectomy the pains of cholelithiasis completely disappear, digestion becomes normal, and there is a great improvement in general health. The condition particularly favouring a successful result of this operation would seem to be a permeable condition of the common duct, and the permanent obliteration of the cystic duct when found in combination with adhesions which are neither very extensive nor very firm. (The American Journal of the Medical Sciences, January, 1892, p. 88.)

### CHRONIC PERITONITIS IN CHILDHOOD.

Henoch (*Deutsche medicinische Wochenschrift*, 1892, No. 1, p. 1) contributes a timely paper under this title. According to his researches, as early as 1838, Wolff published a study on chronic peritonitis, and stated this to be an exceedingly common affection in children, of which he had in a period of six years observed more than a hundred cases. The chief symptom described by him was a copious abdominal effusion. It is, however, very likely, from more modern observations, that a large proportion of these cases were incorrectly diagnosticated, which is the more probable from the fact that all were reported cured. From that time until the appearance of Galvagni's work, in 1869, the subject seemed to have been forgotten. Soon after this, however, the increasing activity in abdominal surgery very rapidly multiplied the number of recorded cases, while at the same time the opinion gained general credence that



all such cases were of a tubercular origin. As late even as 1884, West, in his treatise on diseases of children stated that chronic peritonitis was almost without exception tubercular. This view, however, has been considerably modified by the more recent studies of Baginsky, Vierordt, and others, and it is now accepted that the peritoneum, just as well as the pleura, may be the seat of a simple chronic inflammation with serous exudation. This simple form, which excludes all intra-peritoneal suppurations, is characterised by a slow evolution, absence of spontaneous pain, or of tenderness to pressure: the only symptom is a free or encysted ascites. The etiology is most often very obscure; rarely a history of traumatism may be elicited. In a second group of cases a preceding exanthem may be the apparent etiological factor, as seemed to be likely in two cases—one observed by Fiedler and the other by Henoch—occurring after measles. The complete cure after several tappings, in the author's case, left no doubt of the true character of the disease. The point of greatest value in diagnosis is the general state of the patient. In the simple form, the general nutrition and well-being of the child suffers but little; while, on the contrary, in the tubercular variety, the emaciation is striking. Search for bacilli in the effusion, even in tubercular cases, is often disappointing, and therefore a negative finding does not exclude the more serious disease. Most of the patients are females—a fact that suggests a possible connection in many cases between the peritoneal inflammation and a vulvo-vaginitis, which is by no means uncommon in little girls. In the differential diagnosis one must consider the possibility of cirrhosis of the liver, which in both the hypertrophic and the atrophic form is not unknown in the child. Autopsies upon cases of tubercular peritonitis quite often show an accompanying interstitial hepatitis, probably explainable by a direct extension of the inflammation along Glisson's capsule to the parenchyma of the organ. On the other hand, the peritoneal inflammation might be secondary to the hepatic disease. In the way of treatment, internal medication has no appreciable effect. Simple puncture is more successful, and, moreover, a cure may spontaneously take place. Surgeons have profited from these facts to attribute cures of tubercular peritonitis to laparotomy. König has reported 130 successful cases (seven in children between seven and ten years of age), and Alexandroff, twenty cases between two and fifteen years—all said to be tubercular. The author regards these cases with considerable doubt, for the good reason that none of them have been followed long enough, and because he believes that many false diagnoses have been made, cases of the simple peritonitis above described having been mistaken for the tubercular

variety. He details a case that came under his care, which was submitted to laparotomy as a tubercular case. The peritoneum was found studded with small nodosities; but microscopic examination proved them to be of purely fibrous structure, and no tubercles, bacilli, or giant-cells were found. The child was cured, and still continues in good health. He therefore believes that many like cases have been set down in the category of tubercular peritonitis cured by laparotomy. (*The American Journal of the Medical Sciences*, April, 1892, p. 484.)

### DIARRHŒA OF INFANTS.—Lavage of the Stomach in.

Florand (*La Médecine Moderne*, 1891, No. 53, p. 898) reports five instructive cases of infantile diarrhœa treated by lavage of the stomach according to Hutinel's method. From the uniform success of the treatment in his hands, the author believes that every child suffering from diarrhœa, whether still nursing or during or after weening, and whether the diarrhœa be or be not accompanied by vomiting, should be submitted to lavage of the stomach, followed by calomel and a diet of albumin water and "grog." The operation is practised with great ease. After inserting a cork between the jaws, the operator introduces into the stomach a red caoutchouc urethral catheter, of appropriate calibre, the outer extremity of which embraces a funnel, the whole tube being made long enough to permit of a siphon action. When the tube is in position one or two glasses of boiled water or Vichy water are slowly poured into the stomach, and again removed by siphoning. If the water which returns is foul, the washing should be repeated two or three times, and immediately afterward a small dose of calomel (one-seventh to three-fifths of a grain) should be given, followed by a second dose, and often a third, at hour intervals. A single lavage is often sufficient, but two or three may be required. Albuminous water and "grog" are then given in teaspoonful doses at short intervals. Most frequently the first results are immediate. The child goes to sleep, the temperature falls, and the vomiting ceases completely; while the evacuations lose their odour and regain a normal condition. The water diet is surprisingly well borne, and will support the strength for several days, if necessary, without the addition of any other alimentation. Feeding must be recommenced with extreme caution, and at the beginning should consist of ass's milk, clear bouillon, or sterilised milk, in very small quantities. If, after returning to feeding, some green diarrhœa still persists, a little lactic acid or four or five drops of hydrochloric acid may be used with advantage. The author believes that the day of potions of



bismuth and elixir of paregoric is past, and that lavage of the stomach is the ideal treatment. (*The American Journal of the Medical Sciences*, March, 1892, p. 356.)

### **DUODENAL ULCER.—Diagnosis of.**

At the Manchester Medical Society, on November 4, 1891, Dr. Dreschfeld made some observations on this subject, and showed some patients and preparations. A noteworthy symptom in the perforation-peritonitis of the duodenal as well as the gastric ulcer is a severe pain, localised in the right iliac fossa, with tenderness and increased resistance of the abdominal parieties in that region. It is important to bear this in mind, as such cases might easily be mistaken for perforation-peritonitis from an ulcerative appendicitis. Those cases where more definite symptoms occur may be divided into certain groups, according to the situation of the ulcer. Where the ulcer is situated close to the pylorus the symptoms are the same as those of a round ulcer of the stomach. When the ulcer is situated close to the opening of the common bile-duct there is localised pain, coming on some hours after meals, hæmatemesis, and melæna, and when the ulcer cicatrises, persistent jaundice varying in intensity appears. Where the ulcer is situated beyond the opening of the common bile-duct, the diagnosis can be made if there be stenosis of the duodenum from the cicatrisation of the ulcer. In these cases, as shown by Boas and others, there is dilatation of the stomach and duodenum, and the examination of the contents of the dilated stomach shows the constant presence of bile; the contents have an alkaline reaction, and give evidence of the presence of pancreatic ferment. (*The Lancet*, December 12, 1891, p. 1340.)

### **ENTEROSTOMY FOR INTESTINAL OBSTRUCTION.**

At the Royal Medical and Chirurgical Society, on March 8, 1892, Mr. James Greig Smith (Bristol) read a paper advocating operative evacuation and drainage of intestinal contents in cases of obstruction of the bowels where distension was a marked feature. It was shown that mere over-distension of the intestinal walls was a potent factor in the production of obstruction; physical and physiological causes combined to render an over-distended gut incapable of passing onwards its contents. It was argued that the operative treatment of intestinal obstruction was not completed until this continuing cause was removed. According to the nature of the case, the measures adopted should be: (1) simple evacuation of contents with immediate return of the gut; or (2) evacuation with drainage for several hours or days, and subsequent closure

and return of the gut; or (3) evacuation with drainage that may be permanent. The operative details were described. Anæsthesia should never be carried out while the stomach was distended with fluid; the stomach should be artificially emptied, or the operation should be performed with the help of a local anæsthetic. Anæsthesia should be continued only for so long as was necessary to make the parietal incision and place the sutures. 1. The proceeding of simple evacuation was described in detail. The handling and opening of the gut, the means to promote evacuation, and the length of time which it was advisable to spend over the proceeding, the closure, cleansing, and return of the gut were in turn considered. 2. The proceeding of drainage carried out continuously or intermittently over several hours or days was next described. Means to be adopted for temporary fixation of the gut in the parietal opening, for removing and collecting the intestinal discharges, and for closing the gut and uniting the parietal wound over it were related. 3. The continuance of drainage for an indefinite period—the formation of fæcal fistula—as the best means of dealing with a certain class of cases was discussed. The position of enterostomy as a means of dealing with cases where the cause of the obstruction was not found, or, being found, could not be removed, was considered only incidentally. The arguments adduced were intended to apply only to cases where over-distension existed; and the measures advocated were intended to supplement and complete the ordinary surgical methods for relief of the strangulation, and in no sense to replace these. (*British Medical Journal*, March 12, 1892, p. 554.)

### FATAL JAUNDICE WITHOUT OBSTRUCTION OF THE BILE-DUCTS.

At the Practitioners' Society of New York, on December 4, 1891, Dr. Francis Delafield said: Besides the ordinary cases of obstructive jaundice, I think it is by no means uncommon to find patients behave in just the same way as if they had an obstructive jaundice, and yet in whom at death no obstruction is found. It seems to me that the frequency of such cases prevents our overlooking them. And until they can be explained we have something before us which cannot be made to agree with the prevailing theories of fatal jaundice. The patients who behave in this way and die from jaundice in exactly the same way as other patients who have obstructions of the common bile-duct, have, for the most part, hypertrophic cirrhosis. A smaller number have fatty liver, but most of them simply have hypertrophic cirrhosis. As regards the character of the hypertrophic cirrhosis, the liver, though always large,



may be either smooth or nodular. The new growth of connective tissue which belongs to the cirrhosis may be diffuse; it may surround small groups of the acini; it may surround large groups. The liver-cells may be normal; they may be granular; they may be fatty. In the new connective tissue we find the appearance of a new growth of the bile-ducts, which at one time was supposed to be characteristic of hypertrophic cirrhosis, but which is readily seen in all the forms of cirrhosis, whether hypertrophic or not. The large bile-ducts are normal; they are empty, not dilated. The gall-bladder is of natural size; very often empty. Now, this appearance of the large bile-ducts and the gall-bladder is exactly opposite to that which we find in obstructive jaundice. If a person have a calculus in the common bile-duct; if he have a catarrhal inflammation of this duct, or a new growth affecting the same part, and die of obstructive jaundice, we find the large bile-ducts dilated and containing bile; we find the gall-bladder, unless the cystic duct has been obliterated by previous disease, distended and containing bile. We find what we expect to find with an obstruction, that is, dilatation of the gall-ducts above; but in the other class of cases, the cases without any obstruction, it is always noticeable that not only is there no obstruction, but there is absolutely no dilatation of the bile-ducts or of the gall-bladder, and there is no accumulation of bile in the bile-ducts or gall-ducts, yet the liver itself will be regularly bile-stained. Still further, in going through all the large bile-ducts in these cases, nothing will be found out of the way. No thickening, no mucus, no evidence of any trouble whatever. The symptoms of these patients are those of an ordinary obstructive jaundice. I do not think, so far as the symptoms are concerned, that you could distinguish them from patients with a new-growth in the bile-duct, with a calculus in the bile-duct, or with a chronic inflammation of the bile-duct. They have a jaundice which increases steadily up to the time of their death, so that by the time they die the skin and all the tissues are discoloured to an extreme degree. The urine, of course, contains bile-pigment, the fæces are white. In some patients, before the attack of fatal jaundice comes on there may be a history of attacks of slight jaundice which have come and gone. In some patients there will be a history of one or more ordinary attacks of gastro-duodenal jaundice, ordinary attacks of that kind with which we are all familiar, which run their course and pass over; but later the patient will have an attack of fatal jaundice. With the increasing jaundice, which finally terminates fatally, they will have the ordinary inability to eat, the constipation and diarrhœa, the delirium and stupor; in some of them there will be a dropsy belonging to the cirrhosis, while in others this will

be absent. In all the cases which I have seen, the disposition to bleed has been fairly well marked. In all of them the loss of nutrition has been very well marked. They all lose strength very rapidly, and in that condition they have died. As regards the duration of the attacks, in the cases that I have seen, both during life and after death, they have lasted between three weeks and four months. What I have said positively belongs altogether to cases which I have followed to the post mortem table. (New York Medical Record, February 13, 1892, p. 188.)

### **GALL STONES.—Olive Oil Treatment for.**

A collective investigation of the results of the olive oil treatment of gall-stone colic has been made by the Therapeutic Section of the Philadelphia Polyclinic Medical Society. The following is a summary of the report of the committee of investigation (*New York Medical Journal*, October 3, 1891). Circulars were sent out requesting answers to the following questions:—"Sex and age of patient? Seat of pain? Jaundice? Previous attacks? Did you test any other remedy, and with what results? Results of treatment with olive oil? Remarks." Nineteen replies were received, embodying reports of thirty-seven cases of gall-stone colic treated with olive oil. In addition to these, the committee collected all the previously reported cases of biliary colic treated according to this method which were accessible, to the number of seventeen. An analysis of these fifty-four cases showed that there were one-third more females than males among the patients; that two died; that in three the results were negative; and that in fifty—that is, in about 93 per cent.—positive relief was afforded. In one of the fatal cases the patient was suffering from adhesive obstruction of the bile-ducts; this case should, strictly speaking be deducted from the failures, as being beyond treatment of any kind, medical or surgical. Moreover, two of the observers stated that they had treated forty other cases of biliary colic in this way without a failure, but unfortunately without keeping any accurate record of them. The committee concludes that the beneficial influence of the oil consists, not so much in dissolving the biliary concretions as in increasing the excretion of bile, and in flushing, lubricating, and washing out the passages of the liver. They also conclude that large doses of the oil are not necessary, since in eight of the cases in which it was given in dessert-spoonful doses every three or four hours it apparently produced the same prompt beneficial effect as that afforded by doses of from five ounces to one and two pints. The committee furthermore concluded that it is immaterial whether olive or cotton-seed oil is used. (Supplement to the *British Medical Journal*, Dec. 5, 1891, p. 184.) [See also p. 216 of *Retrospect*.]



**GÜNZBERG'S TEST IN NORMAL DIGESTION.**

Günzberg's test seeks to estimate approximately the digestive quality of the gastric juice ; and since the solvent powers of the peptic enzyme appear to depend on the presence in sufficient quantity of free hydrochloric acid, it would seem that the test may also be regarded as a fair guide to the amount of free acid secreted. The test-capsule consists of a caoutchouc tube, about seven mm. in length, each end of which is closed by a plug of fibrin. Within the tube are placed fifteen cgr. of potassium iodide, and the whole is enclosed in a thin gelatine envelope. The method of its employment is as follows :—A test breakfast, consisting of a slice of wheaten bread, weighing 3 ounces, one lightly-boiled egg, and a quarter of a pint of cold water, is taken the first thing on rising in the morning. After the lapse of one hour, the capsule of Günzberg is swallowed ; the subject is then directed to expectorate into a series of clean vessels at intervals of fifteen minutes ; to each specimen of sputum is then added a solution of starch acidulated with a few drops of strong nitric acid. When the fibrin plugs have been digested, the iodide of potassium escapes into the stomach and is absorbed. It rapidly reaches the secreting glands, and in particular the salivary apparatus. The presence of the iodide in the saliva will be detected by the appearance of a blue discolouration in the starch, and the time elapsing between the ingestion of the capsule and the first appearance of the iodide reaction is thus ascertained. (Dr. G. T. Eccles, *The Practitioner*, March, 1892, p. 166.)

**HEPATIC COLIC.—Treatment by Olive Oil.**

Villemin (*Bull. Gén. de Thérap.*, No. 14, 1891) admits that while clinically the good effects of olive oil in the treatment of hepatic colic are recognised, no explanation of the mode of action yet proposed is satisfactory. 1. *The direct action of the oil upon the calculi.*—It has been said that the oil, entering the gall-bladder, softened the stones, which were then driven into the intestine by muscular contractions of the wall of the bladder. In fact, in several animals killed after a quantity of olive oil, pure or coloured, proportionate to the weight of the animal, had, by means of a tube, been introduced into the stomach, Chauffeard and Dupré recovered the oil in the stomach and intestine, and never beyond the ampulla of Vater in the duodenum. Further, if a cholesterin calculus be immersed in olive oil it remains unaltered, without change in aspect or consistency. 2. *The cholagogue action of the oil.*—Most clinicians admit that it is impossible to disintegrate or dissolve biliary calculi *in situ* ; by the use of cholagogue remedies and of olive oil it is hoped to accomplish the arrest of an attack of hepatic colic by hastening

the descent of the stone by increasing the secretion of bile and causing its expulsion into the intestine. To ascertain whether or not the oil possessed the property of increasing the biliary secretion, numerous experiments have been performed upon animals in which biliary fistulæ had been established. Schmidt and Bidder noticed in cats fed upon a diet of fat a diminution in the quantity of bile discharged. Rosenberg, however, believing that bile is necessary for the emulsification and reabsorption of fats, thought that the ingestion of a large quantity of oil should cause an abundant secretion of bile. In dogs that received in addition to their usual nourishment, about 100 grams of olive oil, he noticed at the end of thirty or forty-five minutes, sometimes only after two hours, an increase in the biliary secretion, which became considerable toward the third or fourth hour. With other cholagogues he failed to obtain effects comparable in duration or intensity to those produced by the oil. He noticed, moreover, that, under these conditions, the bile was diminished in consistency, as a result of which the precipitation of cholesterin seemed to be retarded. In the second place, a more abundant flow of bile would result in a purely mechanical action. In truth, many observers attribute a preponderant rôle in the formation of calculi to a stagnation of the bile. It has, however, been shown that, while the cholagogue action of drugs is very efficacious in preventing hepatic colic, these are without effect in arresting an attack of existing colic. In the case of the oil the attack is arrested in a few minutes, whilst the cholagogue action never follows before a half-hour. 3. *Reflex Action.*—There is yet the possibility of reflex action to explain the mode of action of the oil. Whatever may cause the engagement of the calculus in the cystic duct, it can descend even to the duodenum without difficulty or injury. If the stone is small it is carried off with the bile; if it is larger, it is propelled by the contractions of the muscular fibres of the duct. It has been demonstrated that attacks of hepatic colic are dependent upon reflex spasm of the walls of the gall-bladder, or of the cystic or common duct. To relieve such an attack a remedy should overcome the spasm upon which the pain depends. It is, therefore, believed, that in the first place the oil, by determining a greater fluidity and abundance of the bile, may prevent the formation of calculi, and when an attack of hepatic colic has been induced the oil may by a reflex action arrest both the spasm of the biliary passages as well as the pain occasioned by this spasm; subsequently the cholagogue action of the oil may favour the descent of the calculus into the intestine. The mode of employment of the oil varies with the end to be accomplished. When an impending attack of hepatic



colic is to be averted, the oil is best administered in the evening, at as long an interval as possible after the meal, in order not to interfere with digestion. A dose of an ounce and a half, repeated on several successive days, will generally be sufficient to abort an attack. When the oil is employed to relieve an attack of hepatic colic various methods have been pursued. The oil has been given alone, in doses of about twelve ounces, taken in two equal parts, at an interval of fifteen or thirty minutes; it is sometimes used in combination with belladonna. Five ounces of oil may be administered with half an ounce of cognac, the white of two eggs, and some menthol; or four ounces of the oil may be given five or six hours after a slight repast, and on the next day an ounce and a half of castor oil. Villemin always employs the oil in four-ounce doses, preceded and followed by a mouthful of cognac or of brandy, which the patient may swallow or use as a gargle to overcome the disagreeable taste. Notwithstanding the usual repugnance or disgust that patients manifest for the remedy, vomiting rarely follows its administration. In some cases this even removes the sense of nausea that may previously have been present. The oil at once arrests the acute pains, and shortens the period marked by dull pains, weakness, malaise and jaundice, so common after attacks of hepatic colic. (Medical News, October 17, 1891, p. 456.)

[See also article by Dr. James F. Goodhart, at p. 216 of this volume of the *Retrospect*.]

### **HERNIA, NON-STRANGULATED.—Results of Radical Operations for.**

Lucas Championnière (*L'Abeille Médicale*, 48 an., No. 43) states that he has performed 254 operations for the radical cure of non-strangulated hernia, beginning this series of cases ten years ago. Of this number but two perished—one because he was in very bad condition, the other because of internal strangulation. In spite of this excellent result, in so far as life is concerned, the operation is found useless and fatal unless it is undertaken under certain definite conditions and carried out under a well-considered system. The results of operation have been excellent. The greater number of patients have not been compelled to wear trusses or supports; or, in less favourable cases, this has been found necessary for not longer than two months.

The indications which have been fulfilled in the radical operation are: (1) As extensive an ablation of the peritoneum as possible. (2) Removal of as much omentum as can be reached, or can be drawn into the sac. (3) Formation of a strong and extensive cicatrix in the hernia region. Of the 254 cases 222 were inguinal, fourteen were crural, seventeen were

umbilical, one was traumatic. The most satisfactory results in the operations upon inguinal hernia were obtained in cases of the congenital form of this rupture. The results of radical cure of umbilical hernia are said to be particularly satisfactory. The author believes that the radical cure of reducible hernia should be the rule and not the exception. In very young infants, however, he does not counsel operation, not because such cases can be cured by other means, but because the tissues are not sufficiently firm to make a reliable cicatrix. After the sixth and seventh year, however, the operation is strongly advised. In old persons operation should be avoided unless there are pressing reasons for resorting to the knife. Finally, even those of the proper age—that is, between seven and forty, should not be operated upon when the abdominal walls are weak, or there is a tendency to giving way in several regions. Congenital inguinal hernia invariably should be operated upon. This admits of no exception. The same rule applies to all hernias in young women. (The American Journal of the Medical Sciences, November, 1891, p. 546.)

### **HERNIA, STRANGULATED.—Impulse on Coughing in relation to.**

I have more than once seen the ice-bag applied and violent taxis used in cases of hernia on the strength of this impulse being present when it certainly did not exist. The impulse in ordinary non-strangulated hernia, whether the contents of the sac be omentum or bowel, is *expansile* in character—that is to say, the tumour when the patient coughs or strains not only rises under the hand, but expands in size. In hernial tumours containing bowel this sudden increase in the bulk is principally due to the additional quantity of gas, etc., which is suddenly driven into the herniated portion of gut by the act of coughing or straining. In omental herniæ the expansion is partly due to the sudden turgescence in the omental vessels, and partly to the increase of tension in the sac caused by the cough. Naturally, therefore, the amount of the expansion is relatively greater in herniæ containing bowel than in those composed of omentum. So much so is this the case that in a certain number of instances an experienced hand may form a fairly accurate idea of the nature of the contents of the hernial sac by the careful estimation of the amount of expansion in the impulse. The only cases of ordinary non-strangulated herniæ in which this expansile impulse is absent, except upon very careful examination indeed, are those in which the contents of the sac consist only of very old indurated omental masses, which completely fill the sac and block the opening between it and the abdominal cavity. In these cases, if the examination be confined to the lower portion



of the tumour, the expansion may not be perceptible, but any more recent portions of the mass lying near the ring will generally afford the expansile symptom to a person possessing anything like a delicate sense of touch who examines the herniæ in the right manner—*i.e.*, by grasping the lower part of the tumour in one hand whilst its neck is held between the fingers and thumb of the opposite hand, the patient being at the same time instructed to cough or strain.

In strangulated hernia it is important to understand that absence of impulse does not necessarily mean *immobility* during coughing, for a hernia, even if tightly strangulated, will often move freely under the hand, especially if it be omental. This movement, however, is rather of the nature of a jump or jerk, and is never expansile. There is no symptom which has a more practical bearing upon the treatment of strangulated hernia than the expansile character of this impulse. It may be safely held as a surgical dictum, that every case of hernia in which any change has taken place in the condition of the tumour, such as increase of size or tension, whilst expansile impulse is absent, should be regarded as strangulated, and treated accordingly, without waiting for the onset of vomiting or other sign of intestinal obstruction. (Mr. W. H. Bennett, *The Lancet*, December 19, 1891, p. 1378.)

### JAUNDICE DUE TO PRESSURE OF AN ANEURISM OF THE HEPATIC ARTERY.

Dr. Hale White records a case in which "jaundice was due to the pressure of an aneurism of the hepatic artery on the hepatic duct," and says Von Schueppel alludes to eight cases and Caton to the one he records and ten others. The symptoms appear to be pain, a tumour which may be pulsatile, and jaundice. In my case the pain was not great, and was naturally thought to be due to the empyema. The left lobe of the liver was a little prominent, but that was regarded as evidence of pus pushing the liver down, and, as an aneurism was quite unsuspected, we were at a loss to explain the jaundice. In most of the recorded cases the aneurism burst, causing sudden death; generally, as in my case, the rupture took place into the peritoneal cavity; in the other cases rupture into the biliary passages occurred. In Borchers's case, as in mine, there were two aneurisms, and his patient was a male, aged seventeen years, and my patient was a male, aged eighteen, and in both the aneurisms were about the size of Tangerine oranges. The cases were, therefore, curiously similar. The points of difference were that in Borchers's case both aneurisms were in the substance of the liver, but only one in mine, and in his case rupture took place into the hepatic duct. I cannot make out whether in his case both were on the same

branch of the hepatic artery ; in mine one was on the left and one on the right. I cannot at all explain the cause of the aneurisms : they did not appear to be infective. (*British Medical Journal*, January 30, 1892, p. 223.)

## **MECHANICAL OBSTRUCTION AND PERFORATION OF THE INTESTINE. — Differential Diagnosis of.**

At the Medical Society, on November 16, 1891, Mr. Lockwood and Dr. Galloway read a paper on two cases of Perforating Ulcer of the Duodenum in which laparotomy was performed, but failed to benefit either case. Mr. Cripps, referring to the question of diagnosis, said that a sudden onset of pain usually indicated the presence of mechanical obstruction, whereas it came on more gradually in perforation. It was an important point to decide how long after a perforation one could wash out the cavity of the abdomen with prospect of preventing peritonitis. He alluded to a case of inguinal colotomy which had been under his care. All was going well, and on the sixth day after the operation a dose of castor oil was administered. Half an hour after a fit of coughing the patient complained of pain, which in the course of an hour became intense in its severity. When he saw her some time later he found that the opened intestine had given way and had dropped back into the peritoneum, and that after this had occurred a copious motion, the result of the action of the castor oil, had taken place into the peritoneal cavity. He enlarged the wound and thoroughly washed out the peritoneum, re-stitched the gut to the belly-wall, and put in a drainage-tube. Almost from the moment of the flushing out the pain began to subside, no peritonitis developed, the patient recovered, and remained well a year and a half afterwards. From a study of this case two points were clear : that pain might be produced immediately by extravasation, and that fæcal matter might remain in the peritoneum for three or four hours, and then be washed out without peritonitis developing. (*The Lancet*, November 21, 1891, p. 1165.)

## **PERITONITIS.—Laparotomy in.**

Dr. Krecke, of Munich, has collected from various sources the results of laparotomy in diffuse purulent peritonitis, and points out that the operation has been the means of saving many lives ; for, although the statistics of peritonitis treated medically show a mortality considerably below that given by laparotomy, it is clear, as he says, that a large majority of the successful cases in



the first category are such as would never be submitted to surgical treatment, many of them being referable to inflammatory lesions of the female pelvic organs, and not of an infective kind. Surgical intervention is, on the other hand, called for in cases of general infective peritonitis, such as arises from perforation or in the puerperal period, or from extension of suppuration from other parts. Dr. Krecke points out the difficulties of securing effective drainage, and is averse to irrigation, owing to the possibility of its disseminating septic material to parts of the membrane not previously infected, or of exciting hemorrhage. He prefers rather a simple incision, drainage, and the use of iodoform gauze. Peritonitis is fatal from septicæmia, due to the absorption of poison from the cavity ; but it is remarkable how tolerant the membrane may be of such virus. If the limit of this tolerance could be gauged, some guidance might be obtained as to the appropriateness of surgical interference in any case. But the fact is that there are various degrees and forms of acute peritonitis, some being fatal from septic absorption within a few hours of the onset, before even any noticeable change takes place in the membrane itself. Early operation is then called for, and consideration must also be had to the source of the inflammation. Dr. Krecke's statistics are interesting and instructive. He has collected 119 cases of laparotomy in general peritonitis, the origin of which was determined in all but eighteen, of which nine were successfully treated by laparotomy and nine died. The majority of the remaining 101 cases belonged to the category of perforation-peritonitis. Of these, thirty-six were cases of general peritonitis following perforation of the vermiform appendix ; twelve were cases of typhoid perforation (a condition which at first sight it might seem hopeless to deal with), and these yielded five successes ; twelve were due to perforation from gangrene and other causes implicating the bowels—of the gangrenous not one recovered, and of the eight others only three were cured by the operation. No case of perforating ulcer of the stomach has yet been saved by laparotomy—a result precisely the same as that yielded by medical treatment. Of traumatic cases, three of punctured wounds and one of gunshot were recovered ; but of contusions, only three out of eight cases recovered from laparotomy. The measure, however, saved five out of thirteen cases of puerperal peritonitis. Lastly, a group of cases of peritonitis from various other causes gave three deaths and six recoveries. The total result in 119 cases of general peritonitis treated by laparotomy, fifty-one recoveries, and sixty-eight deaths—statistics which are certainly encouraging. (*The Lancet*, October 10, 1891, p. 825.)

**PYLOROPLASTY.—Heineke-Mikulicz' method.**

The safest, and functionally most efficient, operation for cicatricial stenosis of the pylorus is the one devised by Heineke and Mikulicz nearly at the same time. It is a procedure which well deserves the name it bears—pyloroplasty, as it not only removes the mechanical obstruction, but, at the same time, creates a new pylorus. This operation was first planned and practised by Heineke, of Erlangen, and eleven months later Mikulicz, ignorant of Heineke's work, made the operation in exactly the same manner. The operation is made by cutting the anterior wall of the strictured pylorus, and extending the incision about an inch towards the stomach, and the same distance in the direction of the duodenum. The straight incision in the long axis of the pylorus divides the stricture, and the contracted pylorus becomes the posterior wall of the new pylorus by retracting the margins of the wound on each side, at the centre, with tenacula, and suturing the wound in an opposite direction to the incision, that is transversely to the long axis of the stomach. The new pylorus is made up of tissue, taken partly from the anterior wall of the stomach and partly from the duodenum, the posterior wall being composed of the narrow, contracted pylorus. In suturing the wound it is advisable to tie the sutures from each angle of the wound, tying the central sutures last. Two rows of sutures, deep and superficial, are employed, the same as in closing a wound of the stomach or intestines. Recurrence of the stricture is a physical impossibility, as the new pylorus is composed mostly of healthy tissue, and the danger attending the operation is not greater than that which accompanies an ordinary intentional wound of the stomach or intestines. The results of this operation, obtained in eight cases which have so far been reported, have been very satisfactory both in reference to the immediate effects of the operation and the functional results. (Prof. Senn, Medical Press and Circular, February 10, 1891, p. 129.)

[Prof. Senn gives details of two cases of cicatricial stenosis of the pylorus in which he employed this procedure, and in both instances with most gratifying results.]

**SARCOMA OF DUODENUM.**

At the Pathological Society, on January 5, 1892, Dr. Rolleston showed a specimen of duodenum in which the mucous membrane of the first, second, and commencement of the third part was greatly altered. The surface was raised and rough from the presence of *plâques* of material resembling hardened Peyerian patches. This growth was ulcerated, and, in the region of the biliary papilla, and again at the commencement of the third part, there was considerable destruction of tissue. In the latter



situation there was a cavernous ulcer passing under the pancreas. Its walls, rough and irregular, were formed of muscular coats infiltrated with growth. On the floor of the ulcer the inferior pancreatico-duodenal artery was exposed and eroded. The pancreas was not infiltrated with growth, but was expanded over infiltrated and enlarged glands at its head. The mesenteric glands and those in the portal fissure were enlarged and infiltrated with growth, but there were no enlarged glands elsewhere, and no growths in the spleen or rest of the intestine. The stomach and small intestine contained a large quantity of recently-extravasated blood. Microscopically, the submucous coat was the part primarily affected with a growth composed of small and medium-sized round cells; their nuclei were relatively large to the scanty surrounding cell-substance. Between the cells delicate fibrillæ and coarser strands of fibrous tissue, probably derived in part from the tissues invaded by the growth, could be made out. The growth infiltrated the muscular coats and passed up into the mucous coat. The mucous coat had disappeared from the greater part of the duodenum, and its place was taken by growth with some blood channels, devoid of proper walls. The author considered that the growth was a sarcoma, which started in the submucous coat of the duodenum, and which had some of the characters of a lymphosarcoma, but was limited to the duodenum and its adjacent glands. Dr. N. Moore, in vol. xxxiv. of the *Pathological Transactions*, had described a case of lymphosarcoma limited to the duodenum. The specimen was taken from the body of a woman, aged thirty, who was in St. George's Hospital under Dr. Whipham, and the cause of death was hæmatemesis. (*British Medical Journal*, January 9, 1892, p. 70.)

### **SUBPHRENIC ABSCESS DUE TO PERFORATING GASTRIC ULCER.**

Liermann (*Deut. med. Woch.*, February 25, 1892) says that the peritonitis following upon perforation of a gastric ulcer may occasionally be circumscribed, and that this is especially the case when adhesions have been previously formed. He relates four cases of such circumscribed abscess. (1.) A woman, aged 23, had suffered from gastric symptoms for three years, and from severe pain after food for three weeks. There was an attack of fainting on the morning of admission. Three weeks later pus was found on exploration in the seventh left interspace in the mid-axillary line. A piece of rib was excised and some pus evacuated. The patient died three weeks later. At the necropsy the abscess cavity was bounded by the spleen, stomach, omentum, abdominal wall, and diaphragm. There were cicatrices of old ulcers in the

stomach. There was also pneumonia, pyelophlebitis, and an abscess of the liver. (2.) A woman, aged 24, had suffered from chlorosis. She was suddenly seized with tearing pain in the left side. In addition to the signs in the upper part of the abdomen, there was a left pneumothorax. After exploration, an incision was made midway between the left nipple and the umbilicus and pus evacuated. The patient died a week later. The abscess cavity had much the same boundaries as in the first case. An ulcer was found on the anterior wall of the stomach, 4 cm. from its cardiac end. The abscess cavity communicated with the stomach by this ulcer, as well as with the left pleural cavity—where there was also pus and air—by a hole through the diaphragm. (3) A woman, aged 24, had symptoms of gastric ulcer a year previously. There was impaired resonance in the upper part of the abdomen, between the splenic and hepatic dulness, and later distinct fluctuation in this situation. An incision let out a quantity of foul pus with air. Stinking pus was also vomited several times shortly after the operation. The author thinks that this should be explained by the abscess cavity having an hour-glass shape, and that after the opening of one compartment the other evacuated itself through the aperture into the stomach. The patient was fed by the rectum for a week. She made a good recovery. (4) A woman, aged 23, had acute gastritis two years previously. Since then she has had gastric troubles. Two days before admission there was an increase in these symptoms. Later there was resistance and swelling and then fluctuation in the upper part of the abdomen, to the right of the middle line and 4 cm. from the xiphoid cartilage. The pus was evacuated. The patient died about three weeks after a second operation. At the necropsy there was a funnel-shaped gastric ulcer on the anterior wall of the stomach, which latter thus communicated with an abscess cavity lying between the anterior wall of the stomach, the abdominal wall, liver, and transverse colon. There was also a purulent bronchitis and an abscess in the left lobe of the liver. These cases show that these localised purulent effusions present no definite clinical picture. The author observes that the diagnosis of perforation is here difficult, and therefore the indication for abdominal section is not easy, and also that much time supervenes before the exact site of the abscess can be made out. (*Epitome of the British Medical Journal*, March 19, 1892, p. 45.)

### **TYPHOID FEVER.—Arthritis in.**

Arthritis is an undoubted sequela of typhoid fever, though a rare one, and it is recognised as such by certain peculiarities that distinguish it from other non-typhoidal forms of inflammation of the joints. Statistics show that arthritis in the course of



typhoid fever is more prevalent in males than in females—according to Keen the proportion is three to one ; according to Bazin, four to one. It has also been proved statistically that the affection is most frequent at about the age of eighteen, and in individuals of scrofulous diathesis. The hip, knee, shoulder, ankle, and elbow are the principal joints affected. The chief questions connected with cases of this sort are: (1) Is the arthritis a manifestation of rheumatism brought to light by the typhoid fever? (2) Is it a manifestation of pyemia? (3) Is it an affection peculiar to typhoid fever and induced by its specific poison—*i.e.*, is it a genuine sequela? The disease differs materially from rheumatism in several fundamental particulars. In the first place it is monarticular ; secondly, it has a marked tendency to suppuration and to the formation of ankylosis ; and finally, it has no tendency to involve the heart. The question whether the affection is pyemic is sometimes more difficult to decide than in the present instance. In one patient the joint-affection was not ushered in by chill, fever, or, in fact, by any constitutional symptoms. The temperature has pursued a regular course ; the appetite and digestion have not been impaired, and the patient has been steadily improving. The onset and progress of the joint-disease have been most insidious. Pyemia may certainly be excluded, notwithstanding the fact that there was a focus of suppuration due to a hypodermic injection of ergotine administered on account of intestinal hemorrhage. The arthritis must, therefore, be regarded as due to the typhoid infection, and consequently as a genuine sequela. The prognosis of these arthritic complications is by no means unfavourable. As a rule, according to Keen, the effusion is gradually absorbed, and the joint is restored to its former usefulness. There is one possibility that particularly concerns the hip-joint, namely : spontaneous dislocation. The distention from fluid is sometimes so great as to stretch and weaken the ligaments, so that in lifting the patient in the usual manner, by placing one arm under the back and the other beneath the knee-joints, there is danger of the head of the femur slipping out of its socket. (Dr. F. P. Henry, *Medical News*, December 5, 1891, p. 654.)

### **Typhoid Fever.—Intestinal Perforation in.**

Intestinal perforation in typhoid fever was the subject of a lecture recently delivered by Professor Potain and published in the *Gazette des hôpitaux* for June 9th. This accident, he says, is one of the most serious complications of typhoid fever. The possibility of its occurrence should make us always very reserved in our prognosis in this disease, as it may happen in cases which are apparently of the mildest character. Intestinal

perforation is observed in about two per cent. of all cases of typhoid fever, the proportion varying from one per cent. in women to three per cent. in men. The seat of perforation is usually at the lower end of the ileum, but it may be found in the large intestine and even in the rectum. The form may be rounded or linear; it is rarely larger than the head of a pin. There may be certain premonitory symptoms. Profuse diarrhœa, intestinal hemorrhage, or excessive tenderness in the iliac fossa should all put us on our guard against it. Sometimes sudden constipation, following diarrhœa, is the first indication of the lesion of the peritonæum. The most usual time for its occurrence is from the third to the fifth week. It is more apt to be delayed than to occur early. It has even taken place when the patient was apparently convalescent. Deep pressure in the iliac region has occasionally caused the accident. An error in diet is a more frequent cause. The symptoms of the perforation itself are usually very abrupt. Pain, chill, vomiting, coldness of the extremities, announce only too surely peritonitis. Sometimes, however, it is of insidious development; in such cases marked variations of temperature are of diagnostic value. Death is unfortunately the usual termination, occurring sometimes in a few hours, more frequently at the end of two or three days. A few cases of recovery have been observed. In these favourable cases inflammatory adhesions form, limiting the fæcal effusion and preventing its escape into the peritonæum. As to treatment, opium is of most service. Wet cups are useful in relieving the pain. Surgical intervention gives but little hope in this form of peritonitis. The perforation would be difficult to find and more difficult to suture, because of the lesions of the adjacent tissues. Resection of the intestine would be no less difficult, as Peyer's patches are often affected over a very extensive area. (The New York Medical Journal, January 2, 1892, p. 24.)

### **Typhoid Fever.—Laparotomy for Perforation of Gut.**

Dr. Van Hook, of Chicago, appends the following conclusions to a paper on this subject (see p. 309 of this volume):—1. There is no rational treatment for perforation in the course of typhoid fever, except laparotomy. 2. The indication for laparotomy when perforation occurs in typhoid fever is imperative. 3. The only contra-indication is a moribund condition of the patient. 4. Collapse is often at least temporarily relievable by hot peritoneal flushing. 5. The stage of the fever is not to be considered as an indication or as a contra-indication for laparotomy. 6. The severity of the typhoid fever is alone not a contra-indication. 7. Early laparotomy offers the most hope. 8. The symptoms of peritonitis should not be awaited before



operating. 9. In taking charge of all typhoid fever patients, it is the physician's duty to be ready, in case of perforation, to perform laparotomy. 10. The published statistics of laparotomy for this condition are strongly in favour of operation. 11. The technique, though not complicated, demands much thoughtfulness, acquired dexterity, great rapidity, and thoroughness. (Medical News, November 21, 1891, p. 595.)

### **Typhoid Fever.—Treatment of.**

Dr. Sicard, after discussing the inconveniences and dangers in the use of salicylate of bismuth, charcoal, iodoform, naphthalin, and  $\beta$ -naphthol as intestinal antiseptics, in the *Revue de Thérapeutique Médico-chirurgicale* for 1891, No. 17, p. 458, recommends salol in daily doses, from fifteen to forty-five grains. Calomel, given in fractional doses, following the method of Bouchard, although diminishing the mortality, yet gives rise to a long convalescence. He believes chloroform in small doses to be one of the most useful and least dangerous of all. Used by Desprez in 1867 in cholera, and by Stepp in 1888 in gastric ulcer and in typhoid fever, the author administers it in five-drop doses, thrice daily. This dose is dissolved in one-thousand parts of water. He further insists that large quantities of fluids shall be prescribed in small doses, frequently repeated, up to six or seven quarts per day; two quarts of milk, one quart of bouillon, in addition to water in which sugar-of-milk is dissolved. The amount of urine passed is frequently five or six quarts daily. This treatment not only favours the elimination of toxic matters, but restores to the organism the water lost through the lungs and skin. (The American Journal of the Medical Sciences, November, 1891, p. 641.)

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## AFFECTIONS OF URINARY AND GENERATIVE SYSTEMS.

### **CYSTITIS.—Its Treatment by Corrosive Sublimate.**

Prof. Guyon, in a recent lecture, gives the results of his investigations (*La Médecine Moderne*, 1892, No. 1, p. 7, also *Annales des Maladies des Organes Génito-urinaires*, 1892, No. 1, p. 1). Three elements are considered when a cure is declared: (1) frequency of urination; (2) pain; (3) the purulence of the urine; besides, the capacity of the bladder must be considered. This method has given rise to no accident, not only so far as absorption is concerned, but not even to pain. In tuberculous cystitis an amelioration equivalent to a cure can be obtained; although the pus and frequent urination remain, yet pain always diminishes. In blennorrhagic cystitis precisely the same

result is obtained ; the patient does not suffer more. In similar conditions of disease of diverse origin, the results are equally good. He does not employ washing unless the bladder is indifferent to tension (distension). If washing is practised it must be with weak solutions. He prefers instillations, one part of sublimate to 3000 or 5000, very rarely one part to 850, because these do not distend the bladder, and so give rise to pain. The bacteriological study of the urine, when treated with sublimate shows that it has a powerful preservative action against the microbes of the air, that its antiseptic power is less with cultures of urinary microbes than in cultures of ordinary pyogenic microbes ; that its disinfectant power is feeble in purulent urines. In studying nitrate of silver, it was found to be a less powerful antiseptic against the microbes of the air, less, also, against the urinary microbes, and less, indeed, as a disinfectant of purulent urines. The solutions of sublimate must be made without alcohol, distilled water only being allowed. The installations are made into the posterior urethra as well, because that always participates in the vesical inflammation. The first instillation does not exceed twenty or thirty drops. Soon a drachm can be injected ; the amount is to be regulated by the amount of pain. Instillation must be made into an empty bladder—preliminary catheterisation may be necessary. In speaking of the capacity of the bladder, the author remarks that it is physiological rather than anatomical. (The American Journal of the Medical Sciences, April, 1892, p. 450.)

#### DIABETES.—Treatment of.

At the Medical Society, on March 14, 1892, Dr. Ralfe submitted for consideration the following questions : (1) May any relaxation from the usual dietetic restrictions be permitted in cases of confirmed diabetes running a protracted course? (2) In such cases, at what period of the disease should opium or its derivatives be commenced, and how far may the drug be pushed? The first question might be considered superfluous were it not that of late certain relaxations had been introduced, chiefly by Continental physicians, proposed partly with a view of improving general nutrition, and also to prevent the dangers arising from the accumulation of morbid products, the result of a purely proteid dietary. Dr. Ralfe divided these cases of confirmed diabetes into two classes : (1) alimentary, in which the sugar was at first entirely removable by dietetic restrictions, and was probably entirely hepatic in origin, but in which after a time the glycosuria failed to be entirely removed by diet ; (2) general, in which from the onset only a portion of the sugar was reduced by diet. This form of diabetes had usually



a neurogenic origin, and was also observable in the cases of so-called pancreatic diabetes. This non-removable sugar was not derived from the metabolism of the proteid elements of the food, as had been thought, but from the transformation of the glycogen held in the other tissues and organs of the body, besides that of the liver, either by the general lowering of the power of sugar assimilation in the body by the continued passage of sugar into the circulation, or by the loss of a sugar-destroying ferment in the blood. Observations he had made led him to the conclusion that in purely alimentary diabetes any addition, however slight, of starchy or saccharine food to the diet still further lowered the assimilative processes in the liver and caused an exacerbation with respect to the amount of sugar excreted ; whilst in the general form any relaxation of diet led to an increase in the "non-removable" sugar, showing that the disease was assuming a more serious form. In one case in which on strict diet the proportion of removable sugar was as 5 to 1 non-removable, it became after a short resumption of mixed diet only 1 to 1.6. Further, the relaxations proposed were insufficient to combat any theoretical dangers resulting from a proteid diet. The modicum of bread, milk, mashed potatoes, and subacid fruits proposed were insufficient in themselves to restore balance, whilst they contained sufficient sugar to injure the patient. The diabetic often took too much proteid and neglected the green vegetable food. As to opium and its derivatives, some gave it early, some late, some not at all. Nor was the character of the opiate best suited for administration yet finally decided on, for whilst Dr. Pavy advocated codeine, Dr. Mitchell Bruce had recently put in a claim for morphine. Nor was there any reliable information as to how far the drug might be pushed. Opium and its derivatives should not be administered so long as the glycosuria could be entirely controlled by diet ; but as soon as the sugar was not entirely removable by the strictest diet, then opium should be commenced, and might be safely increased as long as the excretion of sugar continued to fall under its administration. The signal for stopping any further increase of the drug was the cessation of any further fall when an increase was made, or when an actual rise took place in face of it.

Dr. Pavy said he regarded the disease as due to the defective assimilation of carbo-hydrates. These were found in proteid food, as glycogen, others were probably wrapped up in the glucosides. Sugar was met with in the free and in the locked-up form. Mucin had been shown to be a glucoside, that is, a compound of proteid and carbo-hydrate. In diabetes, free and locked-up carbo-hydrates had to be dealt with. He declined to adopt the arbitrary classification of cases of diabetes into

alimentary and general. He regarded them all as to a certain extent alimentary. First and foremost it was absolutely necessary to discard the glycogenic theory. It was an error to suppose that the liver tissue was more saccharine than other tissues, and that the blood in the hepatic veins was sweeter than that flowing in through the portal vein. He had never met with a single instance in which the portal vein contained less sugar than the general circulation, indeed quite the opposite condition prevailed. These remarks were based on upwards of fifty observations. Even in a rabbit fasting for twenty-four hours the blood of the portal vein contained a large amount of sugar. He did not doubt that if the blood of the portal vein were to pass into the general circulation, diabetes would result. Sugar was probably present in small quantities in normal urine. The fault in diabetes was that the carbo-hydrates were permitted to get into the general circulation. The moment they found their way there the urine was sure to contain sugar, the kidneys removing it from the blood in quantities proportional to the percentage therein contained. The mere presence of sugar in the blood of the general circulation constituted a departure from health. The greater the amount the greater the deviation. Diabetes was quite a different disease in young people, but even in them, if the urine could be kept clear of sugar, there would never be any diabetic coma. The best way to afford Nature a chance of recovering herself was by withdrawing such hydrates from the food in order to prevent this deviation in the blood. After a time the assimilative power might return to a varying extent, and this should be ascertained. Whenever a patient whose sugar was removed by a restricted diet began to lose weight he had found by experience that this indicated a return of assimilation and the need for some starchy food. When the assimilative powers did not return then the patient would continue to thrive on the restricted diet, and would not lose weight. As to drugs, he regarded them as an important adjunct to the dietetic treatment. It did not matter whether crude opium or morphine or codeine was used. The only advantage of codeine was that it was less narcotic. (British Medical Journal, March 19, 1892, p. 603.)

#### **DIABETIC COMA.—Treatment of.**

R. Schmitz (Neuenahr) contributes to the *Berliner klin. Wochenschrift*, 1890, No. 40, a paper on this subject. The characteristic signs of this condition are sleepiness, increasing to stupor, accompanied by violent colic and high temperature. Schmitz does not believe that this state is due to "Acetonæmia," but holds that it is due to intoxication by the products of



intestinal decomposition. He gives strong purgatives; under their influence abundant black stinking matter is passed. In four cases this treatment resulted in recovery. (The Dublin Journal of Medical Science, March, 1892, p. 221.)

## DIPHTherITIC ALBUMINURIA AND NEPHRITIS.

Dr. Joseph Kuck summarises the results of his observations on these subjects, in 436 cases of pure diphtheria, as follows :—  
 1. Albuminuria is met with in about 86·5 per cent. of all the cases of diphtheria occurring in Munich. 2. The earlier the albuminuria appears, the more severe is the diphtheria and the worse the prognosis. 3. There is no constant relationship between the albuminuria and the temperature. 4. Formed elements are but rarely found in the urine, and, post mortem, the kidneys appear normal in the great majority of the cases. 5. When there is much albuminuria and nephritis, streptococci are generally found in the kidneys. 6. Rare cases of diphtheritic nephritis with œdema and uræmia do occur, but hæmaturia is extremely seldom met with.—*Münchener medizinische Abhandlungen*, II. Reihe, 3 Heft. (Dr. John Thomson's Periscope, Edinburgh Medical Journal, January, 1892, p. 672.)

## FEBRILE URÆMIA.

It is so unusual to find uræmia accompanied by fever, that M. Huchard thinks it desirable to record a case of this kind which has come under his notice. A man of twenty-eight was brought into the Hôpital Tenon on February 27, in a state of uræmic coma. There had been slight alcoholic excess, but no sign of lead poisoning. There were epileptiform convulsions, sometimes spontaneous, but also easily brought on if the patient was moved or lifted, as there was great hyperexcitability of the muscles and hyperæsthesia of the skin. A brisk saline purgative was ordered, and leeches were put on behind the ears. On admission the temperature was only 99°, but it quickly rose to 100°, and next day to 103°, and on the third day it reached 104·5°, after a series of alternations of coma and convulsions. The urine was highly albuminous. Death followed on the third day. The post mortem examination showed small fatty kidneys of a granular type with adherent capsule and extreme atrophy of the cortex, but no serious defect of any other organ; slight congestion of the meninges, but no other abnormality of the brain, lungs, or heart; slight thickening of the capsule of the liver, but no cirrhosis of the tissue.—*Revue de Méd.*, p. 163, February, 1892. (The Practitioner, May, 1892, p. 371.)

**GONORRHOEA.—Treatment of.**

My treatment of gonorrhœa in all stages has for long been very monotonous. Almost without regard to stage or degree of severity, I prescribe the same remedies. I have long ago laid aside the traditions of my student days, which taught that salines only should be used in the acute stages, and that abortive plans were dangerous. I always use abortive measures, and mostly, I believe, succeed. At any rate, I never encounter ill consequences, and complications are rare. My prescription is a partnership of three different remedies, and it is, I believe, important that they should all be used. First an injection of solution of chloride of zinc, two grains to the ounce; next sandal-wood oil capsules, and, lastly, a purgative night-dose with bromide of potassium. The injection is used three or four times a day, the capsules (ten or twenty minims) taken three times a day. The ingredients of the night-dose are three drachms of Epsom salts, and half a drachm of bromide of potassium. It is, I believe, the action of the last named in preventing congestion of the parts which makes the abortive measures safe. Moderate purgation and entire abstinence from stimulants are essential. If the case is very acute and attended by swelling of the corpus spongiosum, I sometimes prescribe tartar emetic or tincture of aconite, but it is very seldom indeed that these are necessary. If the patient be well purged there is no risk whatever in an abortive treatment from the day that he comes under treatment. The risk of orchitis, prostatitis, cystitis, etc., comes in cases which have been allowed to develop rather than in those treated abortively. I should as soon think of delaying to use local measures in gonorrhœa as I should in purulent ophthalmia. (Mr. Hutchinson's Archives of Surgery, January, 1892, p. 236.)

**GOUT OF THE PENIS.**

At the Clinical Society on January 8, 1892, Sir Dyce Duckworth gave the clinical history of a case of gout of the penis. A man aged forty-two, a glass cutter, was admitted into St. Bartholomew's Hospital with gouty arthritis, involving several joints including those of the great toes. There was moderate pyrexia. The patient had been discharged from a cavalry regiment twenty years previously on account of hernia. Since then he had led a sedentary life, and drank about two pints of beer daily. Sixteen years ago he suffered from lead colic, and was in St. Bartholomew's Hospital for treatment. He was occasionally subject to attacks of articular gout, and inherited the disease from his father. Five days before admission he was awakened by sudden pain in the right wrist and right great toe-joint. The following day he awoke with pain in, and firm erection of,



the penis. This continued up to the time of admission. Three days later the left great toe-joint was attacked by gout. The various thoracic and abdominal organs were found healthy. The urine was acid, sp. gr. 1022, and void of albumen. The penis was erect and tense, distressingly painful and turgid. No points of hardness were found in its course. The testes were natural. There was no pain or swelling in the perineum. There was pyrexia, with a temperature varying from 99° to 102°. Aperients and salines with colchicum were administered, and a light diet. The priapism persisted steadily, uninfluenced by internal treatment, by sedative suppositories or lead and opium lotion. A cage had to be placed over the abdomen to prevent impact of the bedclothes. Micturition was painful, and soft catheters had to be passed. From time to time fresh articular attacks of gout occurred in various joints with slight rises of temperature. Priapism persisted for twenty-one days without intermission, and gradually subsided with general amendment of all the symptoms. The noteworthy points in the case were—first, the gouty inheritance; secondly, enforced sedentary habits, with exposure to lead impregnation, and the habitual drinking of beer. The extreme rarity of the case was commented on. While acute gouty inflammation was shown to be not infrequent in the bladder, prostate gland, and testes, gout of the body of the penis in this acute form was practically unknown, and the author had never heard of a similar case. The pathology was believed to be thrombosis of veins in the corpora cavernosa, with some inflammatory condition of the trabecular structure, return of blood being mechanically prevented during the blocked condition of the parts. Smaller thromboses of this nature had been previously noted, but not leading to painful persistent priapism, and entailing the presence of small knots readily perceptible in the body of the penis, which slowly or imperfectly disappeared. Priapism was sometimes met with in elderly men as the result of a very acid condition of the urine, and was readily removed by alkaline treatment. The author classified the condition described as amongst the rarer forms of gout, of which gouty parotitis was another example. (*The Lancet*, January 16, 1892, p. 142.)

### HYDRONEPHROSIS.—Intermittent.

Terrier and Baudouin (*Rev. de Chir.*, December, 1891) give a table of eighty-three collected cases of intermittent hydronephrosis. In a very large majority of instances the condition is associated with displacement of the kidney. It may in rarer instances be the result of a calculus in the renal pelvis, or of compression, or of temporarily obliteration of the lower end of the ureter. In some few cases it is congenital. Inter-

mittent hydronephrosis is produced in association with movable kidney by the following mechanism :—Bending with or without torsion of the ureter ; temporary arrest of the evacuation of urine and progressive development of a cyst, which empties itself as soon as the kidney has regained its normal situation : peripyelitic irritation consequent on circulatory disturbance or septic infection of the mucous membrane of the pelvis ; fibrous adhesions fixing the sac to the upper part of the ureter and causing a hydronephrosis that is no longer intermittent but persistent. The alternations of distension and evacuation of the pelvis due to temporary obliteration of the ureter are indicated clinically by attacks of pain, which occur almost every month, the general health often becoming more or less impaired. Each attack is marked by almost intolerable pain, coinciding with the appearance of a tumour usually on the right flank, and a decided diminution in the quantity of urine passed from the bladder. These symptoms are the result of a sudden bending of the ureter caused by displacement of the movable kidney. The crisis lasts for some hours, and ceases suddenly when the kidney regains its proper place. In the early stages the treatment should consist, if the kidney be freely movable, in nephrorrhaphy. In more advanced stages when there is a well-marked and persistent renal tumour, and the urine is turbid, the surgeon should, if the other kidney be sound, have recourse to nephrectomy. If both organs be diseased he cannot do more than incise the cyst and establish a renal fistula. (Epitome of the British Medical Journal, January 23, 1892, p. 13.)

### **Hydronephrosis.—Its Relation to Movable Kidney.**

Mr. Lucas appends the following conclusions to a paper on this subject, a part of which will be found at p. 334 of this volume :  
1. Movable kidney is a condition which during displacement may, and often does, lead to hydronephrotic destruction, owing to twisting of the pedicle or pressure of the organ upon its duct.  
2. To avoid such danger, and to relieve the patient from pain all such cases should be treated by nephrorrhaphy, which is a simple and safe operation.  
3. Even when hydronephrosis has already advanced, cases in which the hydronephrosis is clearly due to the mobility may be cured by nephrorrhaphy, and the remains of the organ saved from further degeneration. (British Medical Journal, December 26, 1892, p. 1345.)

### **MAMMARY ABSCESS.—Prevention of.**

M. Pingat (Thèse de Paris, 1891) presents a valuable contribution for the prevention of an exceedingly disagreeable complication. He points out that massage may be an efficient cause, unless very gently done, and the hands are absolutely



clean. For cleanliness he recommends thorough washing in soap and water, followed by immersion in a sublimate bath. As an ointment, that of Dubois is recommended—viz., equal parts of oil of sweet almonds, cacao butter, and tannin, although we now avoid fatty bodies, and may, in place of this preparation use the alcoholic lotions of Tarnier and Chantreuil, rum or good cognac, repeated twice in the day. Tarnier directs that every woman at the time of labour shall have a full bath. The toilet of the breasts should be made after delivery with soap and water, and they should be covered with compresses, kept continually moist with a one-fifth of one per cent. solution of bichloride of mercury, evaporation being prevented by a layer of rubber cloth, the whole being kept in place by a bandage. The breast must be washed with borax water, or with a salt solution, before giving the breast to the child. Should the mother forget this precaution, mercurial poisoning is not likely, as the amount absorbed by the child would be small. (*The American Journal of the Medical Sciences*, March, 1892, p. 315.)

#### **PAGET'S DISEASE OF THE GLANS PENIS.**

Professor Pick, in the *Medicinisch-chirurgische Rundschau* for December, 1891, reports the case of a patient who came to him suffering from the following symptoms: For eighteen months there had been an obstinate eczema of the glans penis. There was also a tendency to proliferation of the epithelium and to nodular formation around the glans. An operation for phimosis was called for, and this resulted in temporary improvement of the eczematous condition. The nodular infiltration, however, returned in a short time. Microscopical examination of a portion of the growth showed it to contain cancer cells and numerous psorosperms. With the exception of the presence of the psorosperms, the whole course of the disease, from the initial obstinate eczema to the cancerous degeneration, was one of typical Paget's disease, such as has been described as occurring in the breasts, the only difference in this case being in the seat of the disease. What part the micro-organisms played in the disease it was difficult to say, but the author thought that they should be looked for in other suspicious cases of the sort. (*The New York Medical Journal*, January 23, 1892, p. 101.)

#### **PROSTATECTOMY.**

Dr. Keyes, of New York, appends the following conclusions to a paper on this subject, of which an abstract will be found at p. 343 of this volume:—(1) Prostatectomy is justifiable, and does what nothing else can. (2) The perineal operation is moderately less severe, but decidedly less reliable than the supra-pubic; it should rarely be preferred, unless there be

urethral complications. In very feeble men it may still be elected. (3) The operation is not justifiable with present statistics if the patient can be comfortable in catheter life. (4) No physical condition of the parts or of the patient, short of a practically moribund state, contra indicates operation. By it in desperate cases life is often actually saved, although the operation is a grave one and its mortality high. (5) With the ronguer—better than any instrument—the bladder outlet can be lowered, and polypoid or interstitial growths jutting into the prostatic sinus can be removed, and these points are more essential to a successful operation than is the taking away of a large portion of the prostatic bulk. The instrument next in value is the curved scissors, but the skilled finger is the most important of all. Most of the work has to be done by the aid of touch, as the bleeding soon becomes free and renders visual inspection impossible. (6) Diuretin, perhaps, is of value when the kidneys are damaged. It certainly does no harm. (7) Chloroform alone, in my opinion should be used as an anæsthetic for the kidneys' sake. (New York Medical Record, October 31, 1891, p. 529.)

### **SOFT CHANCRE (Chancroid).**

What we call chancroid is the product of many varieties of pus derived from non-syphilitic and syphilitic subjects. It is, therefore, a hybrid, heterogeneous lesion, in all cases a septic ulcer, and in many instances simply an active form of wound infection. This septic ulcer in some cases originates *de novo* from the contact of pyogenic microbes with a raw surface, herpetic or eczematous excoriation, a chafe, etc., sexual contact then having nothing to do with its development. As a general rule, this local infective process is more active in syphilitic than in non-syphilitic subjects. It follows, therefore, that so long as pyogenic microbes and tissue-predisposition exist, chancroids will be found upon the mucous membranes and integument of the human race. (Dr. R. W. Taylor, Medical News, December 5, 1891, p. 648.)

### **SYPHILIS OF THE MOUTH.—Chromic Acid in.**

Dr. Ernest Feibes gives a very careful review of the literature of the local use of chromic acid in the treatment of syphilitic diseases of the cavity of the mouth (*Therapeutische Monatshefte*, 1891, No. 11, S. 578). Concentrated solutions in water, from 10 to 50 per cent., are applied with a camel's-hair brush, and the mouth, after two or three minutes, rinsed out with chloroform water to remove the taste as well as the excess of acid. He regards it as the best local treatment in syphilis of the mucous



membranes, even after an extensive experience with applications of silver. (The American Journal of the Medical Sciences, March, 1892, p. 308.)

### **SYPHILIS.—Treatment of.**

Hefte 8 u. 9, 1891, of the *Wiener Klinik* contain the valuable work of Dr. Elsenberg on the treatment of syphilis. After discussing the curability of this disease, the question of re-infection, the results of the excision of the primary lesion, he comes to a consideration of the means at our disposal for the successful treatment. For the primary lesion, if phagedenic, the ordinary antiseptics are recommended: corrosive sublimate, carbolic acid, iodoform, derivatives of iodine. He recommends the method of inunction as the best of all for external use of mercury. He insists that a full warm bath which contains a pound of soda, the patient being well rubbed with soap, shall be taken for two or three days before treatment; that the teeth shall be put in order, and any inflammation of the mucous membrane of the mouth shall be treated by washes of five per cent. solution of salol dissolved in alcohol and well diluted with water. For inunction he advises the ordinary blue ointment popularised by Lebeuf, in doses from one-half to one and a half drachms. The time required for thorough inunction of the minimum quantity is upwards of half an hour. This treatment is to be continued until all symptoms have disappeared, or eight or ten more treatments have been made, or there intervenes swelling of the oral mucous membrane. For six or eight weeks succeeding this treatment the iodide of soda or potash is to be employed. Although placing his reliance upon the inunction method, yet the author gives a very complete history of the various mercurials used for internal medication, as well as those used hypodermatically, both the soluble and insoluble salts. In the administration of the iodides he prefers the iodide of potash, in doses sufficient to accomplish his purpose, even to one hundred and fifty grains per diem. The iodide of soda is to be substituted when potash is contra-indicated, because of the condition of the heart. In rare cases iodoform or odol (thirty to forty-five grains per diem) may be substituted. (The American Journal of the Medical Sciences, November, 1891, p. 644.)

### **URÆMIA.—Eruption of the Skin in.**

At the Clinical Society, on November 13, 1891, Dr. Le Cronier Lancaster contributed notes of eight cases of Uræmic Eruption of the Skin. The object of the paper was to draw attention to certain peculiar states of the skin associated with a uræmic condition of the blood. The eruption, which occurred principally

in cases of chronic interstitial nephritis, first appeared as maculæ and papulæ of a bright red colour upon the extensor surfaces of the hands, forearms, and legs, and then rapidly spread over the whole body. In a few days one of three changes occurred in the rash: 1. It gradually subsided with extremely free desquamation, leaving the underlying skin brawny and thickened. 2. It became eczematous, with free exudation of a gunmy fluid, which dried, and formed scabs and crusts. 3. In the severer cases pustulation or even the formation of small abscesses followed the eczematous stage. Severe itching usually accompanied all stages of the rash. The eruption was generally of grave prognostic significance; in seven out of the eight cases it was followed by death within five weeks from its first outbreak. An abstract of those cases in which this eruption had been seen was read, and the microscopical appearances of the diseased skin detailed. In considering the etiology of the eruption, its analogy with skin rashes due to pyæmia, ptomaines, and drugs was pointed out, and the suggestion made that the uræmic eruption was a trophoneurosis, due to the presence of one or more toxic principles circulating in the blood, which the diseased kidneys had failed to excrete. (The Lancet, November 21, 1891, p. 1169.)

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## GENERAL SURGERY, AND AFFECTIONS OF THE BONES, JOINTS, &c.

### ACTUAL CAUTERY.—Its Uses.

Mr. Mitchell Banks, at the end of an interesting and instructive paper on the neglect of the actual cautery, states that "the conditions in which the cautery promises to be of most service are—(1) chronic arthritis in adults, especially in the knèe-joint; (2) chronic inflammation of the vertebræ from injury; (3) severe periostitis, with great thickening of bone and much pain, notably of syphilitic origin; (4) intractable cases of pruritus ani, where the usual medicaments have failed; and (5) certain cases of hysterical joint affections, where the patient stands in danger of becoming a permanent invalid. (Liverpool Medico-Chirurgical Journal, January, 1892, p. 102.)

### ALBUMINOUS PERIOSTITIS.

Dr. Dzierzawski communicates to the Polish medical journal, the *Kronika Lekarska*, an article on the so-called "periostitis albuminosa" of Poncet, Terrier, and Lannelongue. He has been able to find, in addition to his own case, twenty-seven cases reported in medical literature. It is an affection of the periosteum characterised by a clear, tenacious exudation,



resembling the synovial fluid or the white of egg, and it is of course from this circumstance that the name has been given it. Some authors, as Nicaise, Riedinger, Albert, and Duplay, look upon it as a special pathological form ; while others, as Schlange, Roser, Vollert, Garré, and Oliver, are disposed to regard it merely as a variety of purulent periostitis. Dr. Dzierzawski's own view is that it is not a disease *sui generis*, but that it is comparable to those cases of contagious osteomyelitis where a clear fluid exudation is formed owing to a low type of inflammation, or to tubercular cases, where there are infiltrations or cold abscesses. The small number of pus corpuscles can be explained, according to Schlange, by their deficient formation, owing to the weakness of the inflammation, or according to Garré, by supposing a secondary liquefaction of these bodies by the serous exudation. Under some conditions the periosteum may give rise to exudation containing mucus, consequently there is no need to suppose that the pus corpuscles undergo mucous degeneration, and a better name for the affection under consideration would perhaps, according to the author, be "non-purulent osteo-periostitis." (The Lancet, March 12, 1892, p. 599.)

### **BURNS.—Antiseptic Treatment of.**

Such clothes as can be conveniently removed are taken off ; others that are more intimately connected with the part are cut away. The wound, when exposed, is washed with a warm solution of 1 in 2,000 bichloride of mercury, in order more easily to remove any fragments of foreign material, or to impregnate such as remain irremovable. It is then covered with perforated green protective (oiled silk), also steeped in the solution. Over this is placed a piece of boracic lint, wrung out of the same solution, and this again is covered completely by gutta percha tissue. The whole is enveloped in sublimated gamgee tissue, and secured with a bandage. This dressing is kept on for two, three, or more days, according to the amount of discharge which, as soon as it appears through the dressing, necessitates the removal of the latter. When the dressing is renewed, it will frequently be found that the protective and gutta percha tissue, after being cleansed, can be used again. (Mr. Maylard, The Glasgow Medical Journal, January, 1892, p. 3.)

### **CARCINOMA OF THE BREAST.—Recurrence after Operation.**

I have performed amputation of the breast seventy-one times, and in nearly every case opened the axilla and removed the glands. In this series of seventy-one consecutive cases one patient died from the immediate effects of the operation. This patient suffered from hæmophilia and bled to death, in spite of

everything that could be done to prevent the constant hemorrhage. Including this case of death, the mortality of the operation is 1·4 per cent. ; excluding it, there is an unbroken series of seventy consecutive cases without a death. In addition to the reduction of the mortality from as high as twenty-three per cent., recorded by Billroth, to a cipher, it can be also said that there was no case of pyæmia, septicæmia, erysipelas, or abscess. Besides the question of mortality, the question of permanent cures effected by the operation is one to which great interest is attached. In the list of seventy-one cases of amputation of the breast, a number must be eliminated in estimating the percentage of permanent cures. This is necessary, because some of the tumours were of other varieties of malignant disease, and while this would not affect the question of mortality in reference to the operation of amputation of the breast, it would affect materially the question of cures beyond three years in carcinoma. In the thirty-three cases of pure carcinoma of the breast in which the clinical histories and the microscopical examinations are complete, there were eight permanent cures of over three years' limit of time. Deducting the two cases in which the histories are unknown, the result is over twenty-five per cent. of permanent cures beyond the three years' limit of time. It is fair to assume that where the patients have not quite reached three years' limit, without any evidences of return, that there will be some who in a very short time can be classed as permanent cures. This would bring the percentage of cures up to nearly thirty per cent., if not over thirty per cent. Thus a study of my seventy-one consecutive cases demonstrates the fact that the mortality has been reduced from twenty-three per cent., as published by Billroth, to 1·4 per cent., or, if the case of hæmophilia be excluded, from twenty-three per cent. to zero. The percentage of permanent cures from fifteen per cent., which is the best result, and published by Mr. Banks, to nearly double or thirty per cent. Finally, I believe this great reduction in the mortality of the operation will have a marked effect upon the radical character of the operation in the future. As a natural sequence the percentage of permanent cures will be increased. I feel justified, in view of these facts, to prophesy that, with early and radical operations, the recurrence of carcinoma of the breast after removal of the gland will be, comparatively speaking, of less frequent occurrence. I feel confident that with the early recognition of the disease, and with complete operation, together with the improved methods in the technique, that amputation of the breast for carcinoma of that gland will yield results more brilliant and startling than the most sanguine surgeon could imagine. (Dr. F. S. Dennis, *New York Medical Record*, Feb. 27, 1892, p. 229.)



**CARCINOMATOUS TISSUE.—The Nitric Acid Method of Detecting.**

At the American Surgical Association, September, 1891, Dr. Dennis gave details of a recently devised method suggested by Harold J. Stiles, M.B., F.R.C.S.E., Assistant to the Professor of Surgery in the University of Edinburgh. The steps of the process had been specially communicated to the author of the paper on carcinoma by Professor Cheyne, of Edinburgh, for embodiment in the paper and presentation to the Association of American Surgeons in congress at Washington. The process is given here from the manuscripts of Mr. Stiles :—(1) Wash the mamma in water to remove all traces of blood. This is important, because after treatment with nitric acid the blood becomes blackened and difficult to remove, and therefore greatly obscures the appearances which the method brings out. (2) Submerge the whole organ in a five-per-cent. aqueous solution of acidum nitricum (B.P.) for about ten minutes—that is to say, during the time the surgeon is clearing out the axilla. (3) Wash in plenty of running water for five minutes. (4) Place in methylated spirit (undiluted) for two or three minutes. (5) Examine the whole surface very carefully to ascertain (*a*) whether any part of the tumour is exposed upon the surface, or (*b*) whether any locally disseminated cancer foci are exposed upon the cut surface, or (*c*) whether breast tissue is exposed. The effect of the above-given method is to render all carcinomatous tissue and parenchyma dull and opaque white, due to coagulation of the albumin of the protoplasm of the cancer and epithelial cells. The fibrous tissue of the stroma is rendered gelatinous, translucent, and homogeneous in appearance and somewhat india-rubberlike in consistence. The fat is unaltered. After examining the surface of the organ it should be cut into thick slices, and these are to be treated in the same way. Thus the various normal and pathological constituents of the mamma can be readily and most satisfactorily studied. Cancer and parenchyma can at once be detected if present upon the surgeon's cut surface, and, since the examination can easily be completed before the time for suturing the wound, we have in this method a means which affords the surgeon a valuable aid in ascertaining the limits of the disease and of the organ. In two cases recently operated on by Professor Cheyne the writer was able to point out to him a speck of cancer no larger than a pin's head exposed upon the cut surface of the mamma. A corresponding point of the wound was searched, and in each case the remainder of the disease was discovered and removed. The writer possesses microscopic preparations proving the cancerous nature of the portions so discovered. It is necessary to point out, however, that even although no locally disseminated

foci may be discovered upon the surgeon's cut surface, the prognosis is not necessarily good, because, as we have already seen, the presence of lymphatics containing cancer cells can not be detected with the naked eye. In a microscopic investigation of tumours of the breast we have in the nitric acid method a means which enables us to select exactly those portions which are most likely to illustrate special points, and in this way much time and labour is saved. Those slices from which pieces are to be selected for microscopical examination must not be allowed to remain in the acid solution for more than a few minutes, as the acid renders the tissue too hard for section cutting. (The New York Medical Journal, November 7, 1891, p. 523.)

## DRAINAGE OF WOUNDS.

Views and practices concerning drainage have materially changed even since the antiseptic era began. Our predecessors drained to permit escape of pus which they knew would form. Until lately we have drained in order to prevent its formation. We seem now to be on the eve of an era when we need to drain but little or not at all. We resort to drainage now only of necessity, in septic or infected cases. In other cases we drain mainly from habit, or from fear. Indeed, when we start afresh, as it were, without previous infection, the practice of drainage is a confession of fear, or of weakness, both of which are alike unscientific and unfortunate. We have learned that a little blood serum is an advantage rather than a detriment, and we do not need to guard against its presence as we used to. It even seems to me that in many cases, where all other aseptic requirements have been met, we do much more harm than good by the use of drains. Did time permit, it seems to me that it would be justifiable to occupy some moments in a discussion of this single topic. As it is, I will simply justify personal conclusions by mentioning certain classes of operations in which at present I never resort to drainage—never having regretted discontinuing it: (a) Deliberate operations about the brain and calvarium. (b) Amputations when in uninfected tissues. (c) Excisions of joints for conditions other than tubercular. (d) Herniotomy, both for strangulation and radical cure, when the intestine is still viable and no gangrenous condition is met with. (e) Osteotomy, tarsectomy, and other operations for relief of deformity. (f) Most operations for removal of tumours, etc. This is by no means a complete list, but is simply intended to be suggestive. (Professor Roswell Park, The American Journal of the Medical Sciences, November, 1891, p. 481.)



**EPISTAXIS.—A Method of Plugging for.**

Undoubtedly plugging the nares by aid of Bellocq's cannula is an excellent method; but occasionally, especially in country practice, a Bellocq's cannula is not at hand, and some method easy, effectual, and effected by material always within reach, must be resorted to. Such a method I have found in the following:—A piece of old, soft, thin cotton or silk, or oiled silk, about six inches square (a piece of an old handkerchief will answer) is taken, and, by means of a probe, metal thermometer case, or penholder, or anything handy, is pushed centre first, "umbrella" fashion, into the nostril, the direction of pressure when the patient is sitting erect being backwards and slightly downwards. It is pushed on in this fashion until it is felt that the point of the "umbrella" is well into the cavity of the nasopharynx. The thermometer case or probe, or whatever has been employed, is now pushed on in an upward direction and then towards the sides, so as to pull more of the "umbrella" into the naso-pharynx. The thermometer case is now withdrawn. We have now a sac lying in the nares, its closed end protruding well into the pharynx behind, and its open end protruding at the anterior opening of the nares. If it be thought necessary, and is convenient, the inside of the sac may be brushed with some household astringent, such as alum solution, turpentine, etc. A considerable quantity of cotton wool is now, by means of the thermometer case, pushed well back to the bottom of the sac. Then, the thermometer case being held firmly against the packed wool, the mouth of the sack is pulled upon, and thus its bottom with the wool packed in it is pulled forward, and forms a firm, hard plug wedged into the posterior nares. We may now pack the sack full of cotton wool, dry or soaked in some astringent solution. The mouth of the sack may now be closed by tying it just outside the nostril with a piece of strong thread; it is then trimmed by scissors and the ends of the thread secured outside. (Dr. A. A. Philip, Belfast, *The Lancet*, February 6, 1892, p. 309.)

**GANGRENE, SENILE.—Treatment of.**

Heidenhain (*Deutsche med. Woch.*, September 17 and 24, 1891) gives the results of treatment in thirty cases of senile gangrene, many of them in diabetic patients; and draws attention to the importance of ascertaining whether, in addition to the arterio-sclerosis and atheroma, there is thrombosis of any artery in the lower limb. To such thrombosis the recurrence of gangrene after amputation is probably frequently due. He proposes to divide these cases of arterio-sclerosis and senile gangrene, especially in diabetics, into two groups according to the etiology. The first group would include cases in which gangrene sets in

after some slight injury, where sclerosis, possibly assisted by the saccharine state of the blood, sets up gangrene by interfering with the circulation. To the second group are to be assigned those cases—probably more numerous than the first—in which gangrene, although apparently spontaneous, is in reality due to previous thrombosis of some artery in the popliteal space or in the leg. Heidenhain's experience in treating these cases leads him to make the following recommendations: Where the gangrene is limited to one or two toes, avoid surgical interference; when, on the contrary, the gangrene has reached the metatarsal region, amputate through the femur above the condyles, taking care to cut as small skin flaps as possible. Greater success attends such high amputation than where an operation is performed lower down. (Supplement to the British Medical Journal, November 7, 1891, p. 147.)

### **HIP DISEASE.—Fixation in the Traction Treatment of.**

Attention is called by Lovett (*New York Medical Journal*, vol. liv., No. 6) to the important place which fixation should occupy in the traction treatment of hip-joint disease. The ordinary traction splint now commonly used is a device which gives passive motion without friction. Fixation was not considered one of its attributes. The author has many times shown that this splint allows of very wide motion in mild cases of hip disease. Where joint motion is not painful in a fairly wide arc, motion within the limits of that arc is not wholly harmful. In cases where the disease is severe, and where the patient is constantly and harmfully active, the ordinary traction splint is not followed by good results. With the idea of combining traction and fixation, Lovett has devised a splint which should be bent to fit the curve of the back; practically it is a combination of the Taylor and Thomas splints, and has the hip-band of the Taylor splint with two perineal bands, and the leg-piece is in a measure like the Thomas splint, excepting that it is prolonged beyond the foot to end in a traction apparatus. The splint does not attempt to force the leg into position by using the lever principle; it simply aims to make a traction, and while doing this it fixes the hip as much as can be done by any portable appliance. By means of the pelvic band this splint firmly holds the leg, pelvis, and thorax. The author uses this appliance where sensitiveness of the hip is present to any extent, where the temperature is high, or where there is much induration of the soft parts—in short, in all bad cases. In addition, he applies it to unruly children, and to those whose parents are ignorant or shiftless. Fixation in bed is desirable when sensitiveness occurs in the joint or malposition in the limb begins to appear.



Statistical study seems to show that fixation in bed, when malformation occurs, not only is an important means of cure of this malposition, but serves to prevent the occurrence of abscesses in a very large proportion of cases. (*The American Journal of the Medical Sciences*, November, 1891, p. 544.)

### **RETRO-PHARYNGEAL ABSCESS.—Treatment of.**

As soon as a retro-pharyngeal abscess is diagnosed steps should be taken to open it, lest urgent dyspnoea come on, or in case the abscess burst when the child is asleep or when assistance is not at hand, and the matter be sucked into the larynx and cause suffocation. There are two possible methods of opening the abscess. It may be opened by an incision through the pharyngeal wall or by an external incision in the neck. The first plan is no doubt the most enticing, owing to the ease with which it can be carried out, but it is not free from objection. The abscess cavity cannot be drained with a tube when the opening is into the pharynx, and consequently the incision may close too soon and the pus may reaccumulate. Again, proper antiseptic treatment is impossible when the abscess has been opened in the pharynx. If, however, this plan is adopted, the child should be put under the influence of chloroform, the mouth should be gagged open, and the head should hang rather over the end of the table. The abscess should then be opened by a longitudinal incision reaching the entire length of the swelling, and the pus should be rapidly sponged away, so as to prevent any of it finding its way into the larynx.

Professor Chiene's plan of opening chronic retro-pharyngeal abscesses dependent on spinal caries is well known; but I am not aware that it has been adopted for the acute abscesses occurring in infancy, unless the pus was pointing externally. There is, however, no difficulty in performing the operation even when the abscess is small and confined to the retro-pharyngeal tissue, and when the patient is quite a young child. In my first case the abscess was not only strictly retro-pharyngeal, but it had been partially drained into the pharynx, and the child was only seven months old. The operation was done as follows in all the cases. An incision, about an inch in length, and about an inch below the mastoid process, was made along the posterior border of the sterno-mastoid. After the fascia covering the muscles in the floor of the posterior triangle was exposed, a cautious dissection with blunt instruments was made behind the deep vessels and nerves of the neck until one finger placed in the wound almost met another placed in the pharynx. A director, guided by the finger into the pharynx, was then thrust into the abscess, and the opening enlarged by passing a pair of dressing forceps into it and forcibly separating the

blades. A drainage-tube should be inserted, and care should be taken that it does not slip out of the abscess cavity, as happened in one of my cases, and give rise to reaccumulation of pus. (Mr. Bilton Pollard, *The Lancet*, February 13, 1892, p. 352.)

[See also Mr. Bilton Pollard's article on this subject at p. 290 of this volume of the *Retrospect*.]

### **SPINE.—The Surgery of the.**

At the American Surgical Association, September 23, 1891, Dr. J. William White, of Philadelphia, read a paper on this subject. The conditions discussed were congenital deformities, tuberculosis of the spine, neoplasms, and traumatisms. Under the first head, spina bifida is the only condition requiring consideration. In this, injection by an iodo-glycerine solution offers the greatest prospect of ultimate recovery, with the least immediate danger. In tuberculosis of the spine the indications for interference are the evacuation of pus, removal of a sequestrum, or of a focus of carious bone, and relief of the cord from pressure. There are records of 14 operations upon the bodies of vertebræ for abscess, with 8 cures, 5 cases improved, and one death, which had no relation to the operation. There have been 40 cases of operations on the spine for the relief of pressure. In 22 there was either improvement or cure. The effect of suspension in the treatment of Pott's paralysis has been so favourable, that it should occupy a prominent position. Conclusions in regard to operative treatment of spinal tuberculosis, with symptoms of pressure on the cord, were:—(1) The paralysis in Pott's disease is not as a rule due to a transverse myelitis or hopeless degeneration, and is not usually due to the pressure of the carious or displaced vertebræ; but is in the majority of cases the result of an external pachymeningitis, which results in the formation of an extra-dural connective tissue tumour. (2) Speaking generally, a favourable prognosis is to be given, especially in children, in cases of Pott's paralysis in which the abscess, if any exists, can be evacuated; the treatment by extension and with plaster jacket can be employed, and the patient can be put under the most favourable hygienic conditions. (3) In cases in which all this has been tried unsuccessfully, or in those in which the disease is slowly but steadily progressing to an unfavourable termination; where, with more or less complete loss of motion and sensation below the level of the lesion, there are incontinence of urine and fæces, and the development of bedsores; and especially when acute symptoms threaten life, resection becomes entirely justifiable. (4) Operations having been decided upon for any or all of the above reasons, the prognosis will be favourable in direct proportion to the youth and strength of the patient, the absence of generalised tuberculosis, and the nearness of the



lesions to the base of the spine. (5) When the tuberculous process affects the arches and there is paraplegia, we may sometimes operate, hoping not only to free the cord, but at the same time remove the focus of disease. This double indication may also be fulfilled in those cases where, without bony disease, there is posterior pachymeningitis or a tuberculoma occupying the canal. (6) If the lesion of the bodies of the vertebræ is in the lumbar region, at a point where these bodies are accessible, it might be possible, in certain cases, to expose the cord from the back, by removal of the laminae, with the object not only of removing pressure, but of reaching and taking away the diseased bone and tubercular granulation. (7) In tuberculosis of the body of a vertebra and compression of the cord by anterior pachymeningitis, we can fulfil only one indication—liberate the cord from pressure. We should operate only in grave cases where acute compression, the appearance of respiratory complications, the rapid development of degenerative processes, force us to interfere; or where the course of a chronic case is steadily toward a fatal determination, although no advanced visceral tuberculous lesions are present. In regard to neoplasms, it was said that every case of focal spinal lesion, thought to depend on a tumour and not distinctly a malignant and generalised disease, should be regarded as amenable to operative interference, no matter how marked the symptoms of pressure may be, nor how long continued. *Traumatism.*—The indications and contra-indications for trephining in spinal fractures are based on the following points: 1. The nature of the vertebral lesion and the nature and extent of the medullary lesion. 2. The time which has elapsed since the traumatism. 3. The regional level of the medullary lesion.

*Conclusions.*—The following conclusions were presented: 1. Some objections urged against operative interference in spinal traumatisms, *i.e.*, hemorrhage, frequency of absolute destruction of the cord, pressure from inaccessible fragments of bone, etc., have been shown to be unsupported by clinical facts; others were largely due to a well-founded dread of *a*, the shock, in those cases operated on in pre-anæsthetic times, and, *b*, consecutive inflammation, suppuration, and pyæmia in pre-antiseptic periods. 2. Some results of recent operative interference in properly selected cases of fractures of the spine are encouraging, and should lead to the more frequent employment of resection of the posterior arches and laminae; *a*, in all cases in which depression of these portions, either from fracture or dislocation, is obvious; *b*, in some cases in which after fracture rapidly progressive degenerative changes manifest themselves; *c*, in all cases in which there is compression of the cauda equina from

any cause, whether from anterior or posterior fracture or from cicatricial tissue; *d*, in the presence of characteristic symptoms of spinal hemorrhage, intra- or extra-medullary. 3. Operation is contra-indicated by a history of such severe crushing force as would be likely to cause disorganisation of the cord. The question which will remain in doubt previous to operation will usually be that of the extent of damage done to the cord, and the possibility of its taking on a reparative action. As to this the safest rule is that which has been formulated by Lauenstein, namely, that if after the lapse of six or ten weeks there is incontinence of urine or incontinence of fæces, and especially if there is also the development and spreading of bedsores, but little is to be hoped for from the unaided efforts of nature. If, however, these symptoms are absent, and if there be the least improvement, it will be proper for the surgeon to delay operative interference still longer. (New York Medical Record, September 26, 1891, p. 371.)

## STERILIZATION OF LARYNGEAL INSTRUMENTS.

Davidsohn demonstrated that boiling for five minutes in a covered vessel charged with water was invariably followed by a faultless sterilization of instruments thus treated. But the great drawback of this plan was that all steel objects thus treated, unless they were perfectly protected by nickel-plating, became rusty and were sooner or later ruined. This objection does not apply to its full extent to sterilization by superheated air; but the necessity for costly apparatus and the tardiness of the process make this plan evidently impracticable. Sterilization by steam presents the drawback of rusting in a still greater degree. If we then had some reliable means of safely preventing the inroads of rust upon our instruments during sterilization by boiling, we would possess a rapid, simple, and thoroughly practical way of accomplishing our purpose. Common washing-soda, as found in every household, if added in the proportion of one per cent. to water, is endowed with the valuable property of preventing the formation of rust on steel during boiling. And we owe this expedient to the ingenuity of Schimmelbusch. In hospitals a sufficient supply of cold sterilized soda solution can be kept on hand, to be poured over the hot instruments as soon as they are placed in the instrument tray. In recapitulation, we say that instruments should be first cleansed with soap, water, and brush, then boiled for five minutes in a covered vessel containing a watery solution of washing-soda 1 : 100 (one heaped tablespoonful to the quart. (Dr. Arpad G. Gerster, New York, The American Journal of the Medical Sciences November, 1891, p. 498.)



**STERILIZATION OF NAIL BRUSHES.**

Schimmelbusch has shown beyond any reasonable doubt that a single and brief immersion in a strong germicidal solution is inadequate to destroy the noxious forms of bacteria contained in surgical nail-brushes. He found that brushes used in the wards and private rooms of the Berlin clinic, which were simply kept in the stereotyped dish alongside of the wash-basin, literally swarmed with pyogenic organisms. Further, he established that to satisfactorily disinfect a brush containing pathogenic germs, an immersion in strong mercuric solution of at least ten minutes was indispensable. If we consider how often brushes fresh from use on infectious cases and still filled with soapsuds are thrown back into the vessel set aside for their immersion, there to give up their contents of soap, which renders the sublimate solution inert, we must conclude that under such circumstances even fifteen or twenty minutes will not accomplish a perfect sterilization. Hence we see with pleasure the demonstration of the fact by Schimmelbusch, that boiling of the most unclean brush for five minutes in a 1 : 100 soda solution will always render it absolutely aseptic. Ordinarily, then, surgical brushes should be always kept immersed in a 1 : 1000 sublimate solution, and should be always boiled before laparotomies, or whenever intensive infection has occurred. Finally, brushes carried about in the open satchel of the surgeon, or those found on the washstands of patients, should also be boiled before use. (Ibid., p. 500.)

**TORTICOLLIS, ACUTE.—Treatment of.**

According to Professor Phocas, of Lille (*Rev. des Mal. de l'Enf.*, October, 1891), acute torticollis is far more common in childhood and youth than in adult or old age. He recognises two main varieties: (1) acute torticollis following immediately a sudden movement of the head, and due to sprain of one or more articulations of the cervical vertebræ—acute traumatic torticollis; (2) acute torticollis following exposure to cold, and due to slight cervical arthritis or to muscular rheumatism—acute rheumatic torticollis. In a few cases the acute traumatic variety may be due to partial rupture of muscles. In either of the two above mentioned forms clonic contractions may be superadded to the tonic contracture. The muscle involved primarily is usually the trapezius. As to treatment, hot applications are the best anodynes; massage of the contracted muscle is a more effectual remedy, and often gives immediate relief, but M. Phocas recommends particularly the application of a collar in the following manner. The patient is placed in a Sayre's suspension apparatus as for the treatment of cervical

caries; he is then very slowly suspended partially. In this way the muscles are uniformly stretched, and their resistance gently overcome with little or no pain. A collar of moistened millboard is now applied and retained in place by a few turns of bandage. The patient remains in the apparatus about ten minutes more, and when liberated is free from pain. In one case the collar was removed on the next day, and the symptoms had all disappeared. (Supplement to the British Medical Journal, October 10, 1891, p. 115.)

## UNUNITED FRACTURES IN CHILDREN.

At the Royal Medical and Chirurgical Society on December 8, 1891, Mr. D'Arcy Power contributed an analysis of sixty-three cases of ununited fracture occurring in the long bones of children. He believed that until the publication of the very valuable paper upon this subject by Sir James Paget, in his *Studies of Old Case-Books*, the occurrence of non-union in children had been almost wholly neglected. The conclusions arrived at by Sir James Paget were entirely borne out by the cases collected. From a consideration of the table formed from these cases it appeared that cases of ununited fracture in children grouped themselves into three classes: the first in which the fracture was intrauterine; the second in young children, often as the result of very slight violence; and a third class, embracing the greater number of the cases which occurred, in older children and in the usual manner. Of the sixty-three cases, five were in the clavicle, nine in the humerus, eleven in the femur, and thirty-eight in the leg. It was very remarkable that the author had not met with any recorded case of ununited fracture in the forearm, although numerically the statistics of fractures showed that the radius and ulna were more frequently broken than any other in a child's body. As regards the sex, non-union occurred in twenty-five males, and in thirty-five females; in three cases the sex was not mentioned. So few observers had noted the side upon which the bone was broken that the table was worthless to settle this point, but there seemed to be a general impression that non-union was much more frequent upon the left than upon the right side. The results of the treatment of non-union were most unsatisfactory. Out of the sixty-three cases bony union was obtained in six cases, in seven the patient was relieved, but in thirty-six cases the patient remained *in statu quo ante*. The author believed that ununited fractures were becoming more frequent than formerly, and he endeavoured to account for this fact. He also pointed out how extremely rare non-union was in France, not in children only, but in adults of both sexes. (British Medical Journal, December 12, 1891, p. 1257.)



## AFFECTIONS OF THE SKIN, ETC.

**ALOPECIA AREATA.—Treatment of.**

Dr. Prince A. Morrow holds that evidence is in favour of alopecia areata being caused by a specific germ. Though this has not so far been isolated, yet, whatever may be the micro-organism, the pathological result is an impairment of the nutrition of the affected areas. The clinical phenomena—the smooth, pale patches, the anæmic skin, the collapsed hair follicles, and the arrest or suspension of their function—all point to the participation of the nervous system in their production. While neither food nor medicine exercises, so far as we can distinguish, any direct specific influence upon the nutrition and growth of the hair, yet we know that local nutritive processes are favourably influenced by hygienic and therapeutic measures, which invigorate the general health and improve the general nutrition of the system. Especially in cases where the disease is generalised and protracted, the effect of local treatment may be materially aided and energised by the exhibition of tonics and reconstituent remedies. In all cases where there is evidence of a loss of nerve tone he is accustomed to give the phosphide of zinc and strychnia—a combination of phosphorus, iron, and strychnia, or phosphoric acid with strychnia. But it is at the same time unnecessary to subject strong, robust individuals to a methodic general treatment, if the patient's general health is good. Constitutional treatment is of subordinate importance. The principle of local treatment may be summed up in one word—*stimulation*. In the simpler, more benign cases, where the patches are limited in number and circumscribed in extent, the hair round the margin of each is to be closely clipped. This permits of a more thorough inspection, while it facilitates the application of remedies. As the disease always advances by peripheral extension, the hairs in this “zone of protection,” as it has been termed by Besnier, are subjected to a modified form of epilation. The hair should be grasped lightly by the forceps, and, if it yields readily, should be extracted. If it resists moderate traction, the grasp of the forceps should be relaxed, and the hair allowed to remain. This tentative traction is an excellent test for the detection of diseased hairs, and should be frequently resorted to during the course of treatment. In recent cases he is accustomed to use chrysarobin eight to ten per cent., and salicylic acid two to five per cent., in traumaticin or lard—the latter method insures more thorough penetration. This should be applied every three or four days in sufficient strength to excite and maintain a moderate dermatitis. In cases where the disease is severe and more extensive, covering the greater part of the scalp, the

hair should be cut closely or shaven, and the entire surface should be treated with acetic acid mixed with chloroform or ether. He usually employs a mixture of equal parts, the relative proportion of the acetic acid being graduated to suit the reactive peculiarities of the tissues, which vary in different individuals, and even in the same individual at different stages of the disease; ordinarily a strength sufficient to produce the white nitrate of silver tint is employed. This superficial vesiculation is followed by a slight exfoliation of the epidermis. In the intervals between these applications—which are repeated two or three times a week at first, and continued at longer intervals during the entire course of treatment, and which should be made by the physician, and not entrusted to the patient—a stimulating oil should be applied once a day. This is composed as follows:—Oil of eucalyptus, oil of turpentine, each half an ounce, crude petroleum and alcohol, each one ounce. The application of this oil is to be followed by a thorough massage of the scalp for five minutes, which the patient can be instructed to perform. This massage, besides aiding the penetration of the oil, is an effective stimulus to the scalp. Once a week, or oftener, the head should be shampooed with the tincture of soft soap. At a later stage of the disease he replaces the oil by sulphur ointment, with or without resorcin. Daily douches and frictions with salt water are also advantageous. In alopecia affecting the hairy structures of the face he also uses the acetic acid, but the strength must be modified to suit this more sensitive surface. As, however, the redness resulting is apt to persist, and the exfoliation is unsightly, he more commonly advises daily frictions with tincture of cantharides, or tincture of capsicum, in an equal quantity of glycerine. For alopecia of the body the extensive surface contra-indicates the use of active irritants, and milder measures are fortunately sufficient. The use of mercurial and tar soaps, and the employment of sulphur baths, are the only measures necessary. Such is the outline of the method of treatment which he has employed for some time with invariably satisfactory results.—*Journal of Cutaneous and Genito-Urinary Diseases*, October, 1891. (Dr. Jamieson's Periscope, Edinburgh Medical Journal, January, 1892, p. 668.)

### ANGIO-KERATOMA.

Under this term, which most aptly describes its pathological anatomy, Dr. Pringle furnishes an exhaustive account of a rare and interesting disease. In persons sometimes in the enjoyment of excellent health, in others in which this was not so satisfactory, but who were subject to chilblains recurring severely each cold season, small grouped telangiectases made



their appearance on the hands and feet. On the hands these were situated on the dorsal aspect, being most abundant over proximal phalanges of the thumbs and fingers. The simplest eruptive elements consisted of tiny, almost imperceptible, pink points, which did not, however, disappear on pressure. Some were larger, from a pin's point to a pin's head in size, darker in colour, and situated in the true skin; on pressure or stretching, these lost a good deal of their colour at the periphery, but a central deep-red point, obviously a telangiectasis of a capillary loop, remained in all. A further stage was seen in the case of some which, grouped together, slightly but incontestably projected above the general skin-level. The acme of severity was attained in the case of certain growths which reached nearly the size of a split-pea. These were rough on the surface, hard to the touch, and warty-looking, owing to great thickening of the epidermis over them, which deadened their colour as compared with that of the simple lesions. The condition of the feet was similar, though more pronounced. Briefly, the tumour histologically was seen to be composed of an inflamed, hypertrophied and infiltrated localised portion of the papillary layer of the skin, with greatly hypertrophied superjacent epidermis. The presence of large irregular lacunar spaces in the papillary layer and *rete Malpighi* was also manifest. The disease which bears most resemblance to angio-keratoma is lymphangioma circumscriptum, but the distinctive points are as follows:—(a) Angio-keratoma is always a sequela of chilblains. No such antecedents have been noted in lymphangioma. (b) Angio-keratoma develops about early adult life, and occurs only on the hands and feet. Lymphangioma shows itself in early childhood, and is commonest on the trunk, neck, arms, thighs, and face. (c) The lesions of angio-keratoma, when pricked, bleed. From those of lymphangioma a colourless, serous fluid exudes. (d) The general lymphatic disturbances (œdema, elephantiasis, enlargement, etc.), occasionally noted in connection with lymphangioma, have never been associated with angio-keratoma. The treatment, successful in that case in which it was tried, was electrolysis, employed much in the same way as for the removal of superfluous hairs.—*British Journal of Dermatology*, August, September, and October, 1891. (*Edinburgh Medical Journal*, December, 1891, p. 575.)

## ECZEMA OF THE LIPS.

Dubreuilh points out that there are at least four forms of eczema which attack the lips. (1) The commonest is the sycosiform eczema of the upper lip, which is often associated with chronic rhinitis. (2) The elephantiasis-like eczema of the upper lip, seen in young strumous persons. (3) A form

described by Kaposi, which is especially seen in elderly women, attacking particularly the red portion of the lip, with the formation of fine cracks and blood crusts, and accompanied by pretty severe itching. (4) The seborrhoic eczema of the lips. This appears as small red spots on the red of the lips and adjoining parts, but soon becomes a general redness, with the continual formation of small transparent scales, resembling healthy and dry epidermis, becoming readily moist on their under surface. There is complaint of heat and tension. The epithelium assumes a yellowish hue, and separates in thicker, larger flakes, often attached in the centre, while the margins are free. Under these new epidermis forms which passes through a similar process. It is persistent and obstinate. Unna ascribes eczema seborrhoicum to a functional disturbance of the sebaceous and coil glands; but Dubreuilh thinks the causation must be sought elsewhere, since these glands are absent on the lips. This form of eczema is specially apt to recur, and a treatment which seemed efficacious in one outbreak may prove powerless in a second. He has had good results with tar and sulphur, while Kaposi employs liquor potassæ as a caustic. Hallopeau scarifies such cases, and Brocq uses an ointment of naphthol and yellow oxide of mercury. Several illustrative cases in which the same form of eczema existed elsewhere are cited.—*Monatshefte für prakt. Dermatologie*, Bd. xiii. No. 8, 1891. (Dr. Jamieson's Periscope, Edinburgh Medical Journal, January, 1892, p. 669.)

### ECZEMA.—Treatment of.

Veiel, of Cannstatt (*La Semaine Medicale*, 1891, No. 47) discussed this subject before the recent Congress of German Dermatologists. In the first place, he does not think that every case of eczema is curable—especially is this true of hereditary cases. A second question to decide is whether internal treatment is demanded or not, and as there are no specifics against eczema he is of the opinion that internal medication is useless unless there are complications. In acute weeping eczema the dusting powders are recommended, and for the more persistent forms Lassar's paste and Pick's salicylic soap. When the eczema is in a squamous state a five per cent. tannic acid ointment is useful; and when chronic, the treatment of Pick with the gelatin sublimate and the plaster of salicylic soap give the best results. The salicylic rubber plasters of Unna are excellent in eczema of the palms and soles, but active irritation should be guarded against. The weeping eczemas of the scalp dry quickly under a salicylic ointment of ten per cent. strength; or, if this be not successful tar may be used, a remedy which, as yet has not been supplanted by any as valuable. It is very difficult to know



when to employ tar ; the skin should be taught to tolerate it. We should use it only upon dry eczema, but nevertheless there are some cases of weeping eczema of the face which yield to it. The mildest form is tar soap. The alcoholic solutions of tar also act rapidly, although oil of cade is preferred. If there is much infiltration, chrysarobin ointment and pyrogallol ointment, the former two per cent. strength increased, if possible, even to ten per cent. Sulphur is seldom employed by the author except for seborrhœic eczema and eczema of the beard. (The American Journal of the Medical Sciences, April, 1892, p. 472.)

[See also article by Dr. Alfred Eddowes, "On the Diagnosis and Treatment of the Infective forms of Eczema," at p. 353 of this volume of the *Retrospect*.]

### EPIDEMIC SKIN DISEASE AT THE PADDINGTON INFIRMARY.

At the Pathological Society on November 30, 1891, Dr. Thomas Savill read a paper on the Epidemic Skin Disease at Paddington Infirmary. A large number of photographs and coloured drawings of the various phases of the disease were shown, together with charts and tables of the symptoms. Several patients also were exhibited with the eruption still on them. After narrating the history of a typical case, the author went on to describe the epidemic as it had occurred in two adjacent buildings, the old sick wards of the Paddington Workhouse, and the new Infirmary. Out of 846 patients who were either in these buildings on July 1, or came in subsequently, between that date and October 31, 163 had been attacked by the disease, 89 males and 74 females, being nearly 20 per cent. Only two cases had occurred amongst the staff, the author himself and a housemaid. All the cases bore a marked general resemblance to each other, but exhibited considerable variation in detail. The disease was described as a universal dermatitis, sometimes attended by the formation of vesicles, and always resulting in the desquamation or exfoliation of the epidermis, attended by a certain amount of constitutional disturbance, and running a more or less definite course of seven or eight weeks. The skin lesion commenced sometimes as a papular or papulorythematous rash, sometimes as raised maculæ, and in some rare cases as rings ; but, however it began, the various elements became confluent in from three to eight days, and produced a crimson, irregularly indurated surface which was continually shedding its cuticle in scales or flakes of various sizes, from impalpable powder to the entire cast of a hand or foot. If exudation were present this entangled the flakes of epidermis and formed crusts. A large proportion of the cases was

attended by a serous exudation from the formation of vesicles, which were easily broken. By this feature Dr. Savill divided his cases into two groups, the "moist" type to the number of one hundred, and the "dry" type, of which there were forty-five, eighteen being of a mixed type. Several independent areas would be involved at different dates, but they all ran the same course. This condition of things lasted for some weeks, several layers of cuticle being shed. By degrees the inflammation subsided, leaving the skin considerably thickened, indurated, and wrinkled. In many cases, the new skin presented a raw, parchment-like appearance, smooth and shiny, and sometimes cracked. The eruption most frequently started on the upper arm or forearm (thirty-seven cases), but almost as frequently on the face or scalp (thirty-five cases), twenty-four cases on the feet and legs, twenty-two cases on the hands, thirteen cases on the back, twelve on the neck, and a like number on the chest or abdomen. The eruption in most cases spread by contiguity to the neighbouring parts, and in quite half of the cases the whole surface of the trunk and limbs was involved. The disease began and ended very gradually. In some cases it was preceded by lassitude and loss of appetite, and not unfrequently the eruption would make a false start. Convalescence was tardy, and thirty-eight of the patients had one or more relapses. Considerable irritation of the skin and a feeling of burning and itching were always present throughout the disease. Of the constitutional symptoms, anorexia and prostration were the chief; feelings of lassitude and weakness were present in all cases; they were often profound, and in some the asthenia was fatal. The temperature remained normal, or even subnormal, excepting when a large extent of skin was involved, and the inflammation was at its height. The tongue was first coated, but soon shed its epithelium. In something like a quarter of the cases, vomiting or diarrhœa or both were present. The conjunctivæ were inflamed in all the severe cases, and in those where the face was involved. The other epidermal structures, hair and nails, shared in the disease in its later stages, and were shed. In fifty per cent. of the cases in which the urine was examined albumen was found, though permanent damage to the kidneys was not noted in any as a result of the disease. The mode of termination in fatal cases was sometimes by collapse consequent on the vomiting and diarrhœa, or more generally by the extreme weakness produced by the eruption. Some died comatose, as in uræmia. Dr. Savill connected two symptoms with a fatal issue—muscular twitching and embarrassed respiration, without physical signs in the lungs. Several of the cases were complicated with boils or carbuncles scattered about the body, and in some the skin remained pigmented for long



after the eruption had subsided. The affection had to be diagnosed in the first place from erysipelas, especially when it attacked parts containing loose cellular tissues. This was effected by the gradual advent, the absence of pyrexia in some cases, by the presence of vesicles, sometimes by the absence of a raised margin, and sometimes by the wide extent of the rash. Those cases which commenced as maculæ bore some resemblance to German measles, but the absence of pyrexia and the extreme desquamation were sufficient to distinguish them. The "dry" variety of cases bore a striking resemblance to pityriasis rubra, but they differed in the fact of their being epidemic, and in children being almost exempt. Moreover, since we must conclude that Dr. Savill's cases were all one disease, and the "moist" type, which were in the majority, so widely differed from pityriasis rubra, we must also conclude that the other cases did not belong to this disease. On the whole, the disease bore more resemblance to acute general eczema than any other known disease; but it differed considerably from this disease in the extent and severity of the dermal inflammation and thickening, in the profuseness of the exfoliation, and in the definiteness of its course. The only treatment which availed was the external application of germicides and the administration of stimulants. The author then proceeded to consider the question of etiology. Age was certainly a very important predisposing condition; for although the infirmary contained a relatively large number of aged persons, still it was shown that if the inmates were classed according to age into decades, the percentage of those attacked in the earlier decades was considerably smaller than the percentage in the later decades. Thus of those between ten and twenty, 6 per cent.; of those between twenty and thirty, 7 per cent.; of those between thirty and forty, 6 per cent.; between forty and fifty, 17 per cent.; between fifty and sixty, 24 per cent.; between sixty and seventy, 38 per cent.; between seventy and eighty, 35 per cent.; between eighty and ninety, 24 per cent. Males seemed more prone to take the disease than females, in the proportion of 24 to 16 per cent. After discussing and excluding food, soap, scabies, and water as possible exciting causes, the question of epidemic influences, such as climate, season, and contagion, were referred to. The clinical phenomena of the disease were alone almost sufficient to stamp it as contagious: its more or less definite course, the constitutional disturbance, the marked effect of germicides, the wave-like manner in which the outbreak had come and gone. Nevertheless, the contagion was evidently of a feeble kind, and seemed to require several important predisposing conditions, including old age and sickness, or "hospitalism," for its development. The bacteriology and several other points connected

with this strange outbreak required careful investigation, and would form the basis of a future communication. (*The Lancet*, December 5, 1891, p. 1279.)

### **EPILATION.—Its Range of Usefulness.**

Zeissler points out that in the multitude of new remedies which appear, often to vanish as rapidly, old ones of much value are apt to be forgotten. Epilation is one on which discredit has recently been cast. It seems impossible to ascertain for how long it has been in vogue in the treatment of certain skin diseases, but since Wertheim's recommendation of this mode of treating sycosis, it has been generally accepted as valuable in that disease. He advises epilating forceps with narrow blades, so as to seize individual hairs. The hairs to be removed should be cut short, traction should be made in the direction in which the hair grows, and all adherent crusts are to be got rid off. Areas should be systematically cleared. In sycosis, of late years a crusade has been preached against epilation by Unna, and especially by Rosenthal, who considers it unnecessary, and claims good results by simple shaving, and, as an essential part of the treatment, the application of a sulphur and tannin paste. Zeissler is so convinced of the importance of epilation that he would rather give up all adjuvant treatment by ointments or lotions than abandon epilation. At the same time he ascribes to salves, lotions, soaps, and shaving their proper place. In sycosis of the vibrissæ he finds epilation of the utmost service. In favus there seems a consensus of opinion as to the absolute necessity of removing in this way the diseased hairs. More than in any other parasitic trouble, it is important in treating favus to keep epilation up for a period sufficiently long to insure a healthy growth of hair, and the final success depends solely on the degree of persistency and energy with which the work is carried on.—*Journal of Cutaneous and Genito-Urinary Diseases*, December, 1891. (Dr. Jamieson's *Periscope*, *Edinburgh Journal*, April, 1892, p. 958.)

### **GRANULOMA FUNGOIDES.**

At the Clinical Society, on December 11th, 1891, Dr. Pye-Smith related a case of Mycosis Fungoides, with a secondary granulomatous growth in one adrenal body. The patient, a large, heavy man of sixty-six, was admitted January 17, 1891, into Guy's Hospital, with a dry, irritable eruption affecting much of the head, neck, and limbs, but leaving large tracts of skin unaffected—a chronic, dry eczema with much thickening, answering to Wilson's eczema hypertrophicum. This had been gradually spreading since it began on the face and scalp in the spring of 1890. The eruption had often got



better under treatment, and then spread again. Sore places, which he attributed to rubbing and scratching, appeared on the shoulder, back, and eyelid. On admission he was free from fever, and the lungs, heart, and urine were normal. Raised granulating patches were present on one eyelid, over one scapula, and on the loin, and there were lacerations covered with scabs on one shoulder and on one leg below the knee. A slough had already formed in one of the former, and after its discharge the wound healed with a sound scar. The granulating growth on the right lumbar region, however, grew much larger, and the patient's temperature rose. Towards the end of February his strength and appetite began to fail. By March 6 several of the more superficial sores had healed, and the large lumbar growth had increased to a circumference of sixteen inches and a height of an inch and a half. An injection of chromic acid failed to hasten the process of sloughing, and the original granulating surface on the eyelid assumed the same hypertrophic character. A large amount of clear serum poured from the granulating masses. On March 20 muttering delirium set in, and death followed on March 30. At the necropsy the liver was cirrhotic, and the base of one lung in a state of recent hepatitis. The other internal organs were normal, except the left adrenal body, which was converted into a firm tumour weighing  $4\frac{1}{2}$  oz. This proved to be a round-celled sarcoma-like growth, and sections of the tumours of the skin showed a similar structure in some parts, although in others the size and arrangement of the cells and stroma were those of granulation tissue. (The Lancet, December 19, 1891, p. 1391.)

### INFECTIVE ANGIOMA OF THE SKIN.

I do not know of more than four examples of infective angioma of the skin on record, and they were all exactly alike and quite different from everything else. The peculiarities of the malady are that it begins, in early life, by what looks like a very superficial port wine stain. This stain advances gradually and forms faintly-marked rings which, in the course of years, cover the whole limb. They are attended by what may be called "cayenne pepper grains," little tufts of dilated capillaries, in which blood is impounded and which you cannot empty by pressure. Our interest with the malady on the present occasion is its infectivity. About this there can be no doubt, for it spreads by continuity with its border and also by the production of satellites near to it. Clearly one explanation of its always assuming the same features is that it always affects the same structures. It keeps to the small blood-vessels of the skin and travels in their coats. But what makes it travel? What is the cause of its infectivity? Is it more probable that it is some

bacillus-parasite having a special fondness for these structures and for none others, or is it more probably a changed condition in the cell-structures of the perivascular spaces, which is contagious from one to another? The great rarity of the disease, and the fact that it always begins in infancy, seem to favour the latter view. If it were due to a specific bacillus it is scarcely likely that we should have identified one case in Norwich, one in Canterbury, one in Berlin, and one in Edinburgh (as has been the case), and none elsewhere. I mention this disease the more willingly as an example, because it is so rare, but it is in all essentials like some others much more common. Whoever can explain for us the infectious spreading of serpiginous angioma will at the same time probably explain that of lupus erythrmatosus and many other peculiar varieties of the lupus family. These all spread serpiginously just in the same way. (Mr. Hutchinson, *The Medical Chronicle*, November, 1891, p. 76.)

### **LINIMENTUM EXSICCANS.**

(*Prüger medischin. Wochens.*, May 1891.) Professor F. J. Pick, the introducer of the now well known gelatines—afterwards improved by Dr. Unna—has introduced a new application for the skin, to which he gives the name of “linimentum exsiccans.” Like all preparations which he has introduced, it can be made anywhere, and the cost is not excessive. It is composed of powdered tragacanth, five parts, glycerine, two parts, and distilled water, one hundred. The fluid must be slowly added while the powder is rubbed diligently in a large mortar. It should have about the consistence of lanolin. It can be applied either by the finger or with a brush in the form of a thin layer on the skin. It dries very quickly and produces a pleasant cooling sensation. Any drug can be added to it, those soluble in water during the making, and the insoluble ones after the basis is complete. It can be washed off in water, or a new layer applied over the old, according to circumstances. Dr. Elliott, of New York, has introduced a somewhat similar preparation, which, from the name of one of the active principles in tragacanth, he calls “bassorin.” (Dr. Norman Walker’s Abstract, *The Medical Chronicle*, November, 1891, p. 131.)

### **LUPUS.—Carbolic Acid and Oil of Cloves in.**

Unna, who had already recommended these remedies in the treatment of lupus, has studied the effects of repeated pencillings in sections made from portions of the tissues while under treatment, and has fully described the appearances. As regards carbolic acid he draws the following conclusions:—Carbolic acid attacks preferentially the older and already disorganised elements, and rapidly induces molecular destruction—therefore



the disappearance of the lupous plasmoma and fibroma under cauterisation by carbolic acid is perfectly conceivable. Whether in this process of absorption the tubercle bacilli persist or die, can, for known reasons, be better determined clinically than histologically. In accordance with his previous experience, he is certain that in some cases single or repeated active cauterisation with carbolic acid can cause the disappearance of lupus nodules without further treatment. The number of cauterisations must be suited to the depth to which the nodules penetrate, and they must be persevered in steadily and without intermission with undiluted carbolic acid. As regards clove oil, clinical observation teaches, that by timely interrupted application of clove oil till separation of the whole epithelium occurs, all the phenomena soon show retrogression, with diminution in the volume of the lupous fibroma and plasmonia. A better preliminary to absorption than the far-reaching interstitial oedema which occurs can hardly be conceived. If, therefore, the distinct action of clove oil on the lupus nodules is slight, in a therapeutic point of view insufficient, and cannot compare with cauterisation with carbolic acid, yet the basis for its employment is to be found in the slighter directly injurious action, in the absence of complete necrosis, and the small amount of harm done to the nuclei, while the indirect effect, the reaction in form of serous inflammation, is much more considerable than after cauterisation by carbolic acid. The cauterisation with clove oil does not with certainty act destructively on the tubercle bacilli, while such an effect of carbolic acid is, at least, probable from clinical experience. — *Monatshefte für prakt. Dermatologie*, December 1, 1891. (Dr. Jamieson's Periscope, Edinburgh Journal, April, 1892, p. 957.)

### **LUPUS ERYTHEMATOSUS OF FACE.—Treatment.**

Brocq (*British Journal of Dermatology*, 1891) recommends in this disease: R.—Salicylic acid, ℥ss; lactic acid, ℥ss; resorcin, gr. xlv; zinc oxide, ℥ij; vaselin, ℥xviij. The following is also usually well borne: R.—Salicylic acid, 1 part; pyrogallol, 2 parts; vaselin, 20 parts. This is to be rubbed in at night. During the day the first named may be applied, the two being thus used conjointly. (*The American Journal of the Medical Sciences*, April, 1892, p. 473.)

### **LUPUS.—Treatment of.**

Dr. G. H. Fox, after reviewing the various methods employed, remarks, of the different substances applied to ulcerating lupus and to the curetted surfaces, with a view to the complete destruction of the lupus tissue, no one has perhaps met with more favour than pyrogallol. This was introduced by Jarisch,

who recommended a ten per cent. ointment to be applied twice daily, after thorough curetting of the patch. At the end of three to five days, or when the surface appears swollen and of a dirty grayish hue, iodoform is to be plentifully applied, which tends to check the pain produced by the ointment. This is covered with linen smeared with boric acid ointment, and bandaged for several weeks, until the suppuration lessens and healing begins. Mercurial plaster is now applied, and after four or five weeks the same cycles of curetting, pyrogallol, iodoform with boric acid dressing, is repeated in order to prevent the return of the lupus by miliary infiltration. Fox uses a stronger ointment of pyrogallol, varying from twenty-five to fifty per cent., which greatly shortens the duration and adds to the efficacy of the treatment. The application is sometimes quite painful for the first or second day, and may give rise to considerable inflammation of the part. But the continued use of the strong ointment soon produces a benumbing sensation in the locality to which it is applied, and no further complaint of pain is made until the ointment is discontinued and a simple dressing substituted. This application, coinciding with the separation of the sloughing tissue, will often be regarded by the patient as more painful than the pyrogallol. When the dirty, brownish, pultaceous slough has separated and left a clean, raw surface, the employment of mercurial plaster will convert the ulcer into a smooth pliable cicatrix. This plan is equally as useful in rodent ulcer as in lupus.—*Boston Medical and Surgical Journal*, November 12, 1891. (Dr. Jamieson's *Periscope*, *Edinburgh Journal*, April, 1892, p. 957.)

## MYCOSIS FUNGOIDES.

At the Clinical Society, on December 11, 1891, Dr. Pye-Smith described a case of mycosis fungoides in a man, aged 66. It began on the face and scalp in the spring of 1890, and had often improved under treatment. Raised granulating patches were present on one eyelid, over one scapula, and on the loin, and lacerations covered with scabs on one shoulder and on one leg below the knee. A slough had already formed in one of the former, and after its discharge the wound healed with a sound scar. The granulation growth on the right lumbar region, however, grew much larger, and the patient's temperature rose. Some of the more superficial sores healed, but the lumbar growth increased, and the granulating surface on the eyelid assumed the same hypertrophic character. Death was preceded by muttering delirium, the liver was cirrhotic, and the base of one lung was hepatised. The left adrenal body was converted into a firm sarcomatous tumour, and sections of the tumours of



the skin showed a similar structure in some parts, although in others the size and arrangement of the cells and stroma were those of granulation tissue. No parasitic elements were found though looked for carefully. (*British Medical Journal*, December 19, 1891, p. 1311.)

## PRURITUS AND ECZEMA OF THE ANUS.

Both of these affections may be lessened by a simple remedy—Eau de cologne applied to the itching surface with a small sponge or a pad of cotton wool. If the skin be at all tender, undiluted eau de cologne gives rise to intense burning pain, but this may be prevented by diluting the spirit before application. The diluted spirit does not have such a strong and permanent action in lessening the itching as the pure spirit, and where the itching is at all great, the pure spirit may be used, notwithstanding the pain it causes, for it converts the intolerable itching into a severe smart, and this may be relieved by diligently fanning the part till the spirit evaporates. (Dr. Lauder Brunton, *British Medical Journal* March 12, 1892, p. 542.)

[See also Dr. Lauder Brunton's article "On the Treatment of Piles," at p. 322 of this volume of the *Retrospect*.]

## PRURITUS HIEMALIS.

Corlett states that in the treatment of pruritus hiemalis locally, resorcin has been found the most beneficial drug. It tides over the irresistible desire to scratch; its influence remains from two to five hours; and not infrequently it affords immunity for a whole night. The following is the formula used:—  
 R.—Resorcin (Merck),  $\mathfrak{z}\text{i}$ .; glycerini,  $\mathfrak{z}\text{ij}$ .; Aquæ, ad  $\mathfrak{z}\text{iv}$ .: sig., apply. Menthol has also been serviceable in this affection:—  
 R.—Menthol, 10 p.c.; glycerini,  $\mathfrak{z}\text{ij}$ .; aquæ, ad  $\mathfrak{z}\text{iv}$ .: sig., apply. Ichthyol, although less agreeable to use, has been highly beneficial in a few cases:—  
 R.—Ichthyol ammon. sulph., 3–10 p.c.; glycerini,  $\mathfrak{z}\text{ij}$ .; alcohol and aquæ, āā q. s. ad  $\mathfrak{z}\text{iv}$ .: sig., apply. These applications have been called palliative, yet it is not very uncommon to see cases of pruritus hiemalis get well under their use. Change of climate seems to be the only curative means at our command; but as few patients are able to avail themselves of this, it must ever be of secondary importance. From the foregoing it will further appear that in selecting a climate, one not subject to sudden changes should be chosen. Warmth and humidity are also essential.—*Journ. of Cutaneous and Genito-Urinary Diseases*, No. 101, 1891. (*The Glasgow Medical Journal*, December, 1891, p. 466.)

**PRURITUS UNIVERSALIS.—Treatment of.**

Lange has found a very prompt action in sodium bicarbonate combined with lithium carbonate in four cases of universal pruritus. The pruritus in one case, which occurred in a lady of 51, formerly well, and by no means hysterical, and which had localised itself in the genital region, was so severe that her friends feared that she would either lose her reason or throw herself out of the window. She became emaciated and hollow-eyed, and suffered from pruritus of the entire body. Only compresses as hot as could be borne, with large doses of chloral, would produce sleep. The administration of the alkalies mentioned, together with carbolic acid compresses, improved her condition in a few days. In six weeks she was markedly better, but still required hypnotics and a compress at night. In three months hypnotics were no longer necessary. In the urine of two other patients an abundant precipitate of uric acid and urates was found.—*Journ. of Cutaneous and Genito-Urinary Diseases*, October, 1891. (The Practitioner, January, 1892, p. 51.)

**SCLERODERMA.**

From clinical observations in three cases and a post mortem study of one, Dinkler (*Deutsches Archiv für klin. Med.*, Bd. xlviii., H. 5 u. 6) maintains that scleroderma is a disease *sui generis*, characterised at the outset by firm swelling and at a late stage by cicatricial-like atrophy of the cutis. The swelling is frequently preceded by vasomotor disturbances. Pigmentation and desquamation may take place, but are not distinctive. Scleroderma may be diffused or circumscribed. The disease process is not restricted to the skin; it may appear in the brain and in striated muscular tissue. The etiology of the disease is obscure; the affection may appear spontaneously or it may follow acute or chronic injuries. It is anatomically characterised by hyperplasia of the consecutive tissue and by vascular changes. The disease of the vessels involves only individual arterial branches and corresponds to periarteritis, mesarteritis, and endarteritis. Clinical observation and anatomical investigation render it probable that the disease is dependent upon an inflammatory process especially involving a varying arterial distribution. The prognosis is dubious. Treatment must be constitutional, conjoined with the application of the constant current and warm baths. (*Medical News*, November, 1891, p. 601.)

**XANTHOMA DIABETICORUM.**

At the Pathological Society, on December 15, 1891, Mr. Malcolm Morris and Mr. Clarke showed a case of Xanthoma Diabeticorum, which was the eleventh case that had been recorded.



The patient was a man aged twenty-seven, whose mother had suffered from functional glycosuria. He had always been stout, and had not suffered from jaundice or headache. It was ascertained that a year ago there was no sugar in his urine. In July some rough spots appeared on the backs of his elbows, and later on the extensor surfaces of the limbs; under arsenic they gradually disappeared. By the middle of September the rash had returned more extensively, and in November it was very severe, affecting especially the elbows and the gluteal region, and a few papules appeared on the trunk. The rash consisted of papules and tubercles of various sizes, which were for the most part discrete; they gradually became red and ultimately yellow in the centre, with a red periphery. The urine was found to contain nearly 7 per cent. of sugar. Anti-diabetic treatment caused a gradual disappearance of the eruption, though the patient suffered much from irritation of the skin while the rash was fading. Dr. Robinson, of New York, had described a precisely similar condition.—Mr. Clarke described the macroscopic and microscopic appearance of the lesions in a small piece of skin excised from the outer border of the forearm. The yellow nodules were situated in the deeper part of the corium; the majority were in close relation with one or more hair follicles, but this did not apply to all. Fresh sections showed the nodules to be occupied chiefly by drops of fat. Around the smaller vessels was a good deal of small-celled infiltration, and at some distance from the capillaries the extravasated cells were large and of yellow colour, being difficult to stain; they were chiefly occupied by fat. There was evidence that some of this fat passed out of the body by way of the epidermis. The lymphatics around the nodules were also full of fat. The hair follicles and the sweat glands were only affected by fatty degeneration where they were involved in the older nodules. The nerves in the neighbourhood of the nodules were normal. The connective tissue and even the elastic fibres in the neighbourhood of the large cells could be seen undergoing fatty degeneration and disintegration. A search for micro-organisms resulted negatively. They reviewed the literature of the disease, and concluded that the disease was essentially of the same nature as the other varieties of xanthoma. Though xanthoma planum of the eyelids presented clinically a marked contrast to these cases, yet links were found by which the two affections were brought into close relationship. Having enumerated some of the points of distinction between the two, they summed up the anatomical characters of xanthoma diabeticorum by describing it as a chronic deep dermatitis with early fatty degeneration. (The Lancet, December 19, 1891, p. 1391.)

## AFFECTIONS OF THE EYE AND EAR.

**BLINDNESS DURING LACTATION.—(Temporary.)**

Mr. Nettleship publishes two cases of this condition. In case 1 there was total blindness for several weeks during lactation, ending in permanent recovery on weaning the baby but leaving appearances of optic neuritis observed many years afterwards. In case 2 there was temporary failure of sight after first confinement, failure again after second confinement sixteen months later, not followed by improvement. There were appearances of post-neuritic atrophy several months afterwards. Cases in which failure of sight in greater or less degree occurs in direct relation with child-bearing are well-known. Most of them can easily be shown to be examples of retinitis associated with the albuminuria which is not uncommon in the later months of pregnancy, and except in regard to the comparatively favourable prognosis both for sight and for life which they present, these cases differ in no way from the common albuminuric retinitis of chronic renal disease. When recovery has taken place after an attack of the albuminuric retinitis of pregnancy, the residual changes seen on ophthalmoscopical examination generally enable us to pronounce with tolerable certainty on the character of the past disease of retina and optic nerve; and we know too well that if the woman who has gone through such an attack becomes pregnant again she is liable to a second and worse visitation both of renal symptoms and of retinitis, during which she is very likely to die. When, however, the albuminuria and its consequent retinal disease comes on in the last pregnancy, recovery both from the blindness and the albuminuria may be permanent, or at any rate life may last for several years. (The Royal London Ophthalmic Hospital Reports, December, 1891, p. 97.)

**CEREBRAL LESIONS DUE TO CHRONIC PURULENT OTITIS MEDIA.**

Dr. Poulson, of Copenhagen, having examined the notes of autopsies in the public hospital of Copenhagen for the years 1870 to 1889 inclusive, found, in 10,159 cases, 28 in which death was attributed to an intra-cranial affection due to chronic purulent otitis media (*Nordiskt medicinskt Archiv*, vol. xxiii., No. 14). There were twelve cases of cerebral abscess, eight in the temporal lobe, seven adults and one child; three in the cerebellum, all adults. One case presented abscess in the cerebellum and in the occipital lobe (a child). Two of the temporal abscesses were opened by trepanation of the cranium. One case recovered entirely; the other died of diffuse meningitis. Not much diagnostic significance is attached to the fever in



such cases; it is not great in uncomplicated cases of abscess in the brain. Among symptoms of compression of the brain, the slowness of the pulse is important, but not pathognomonic. Cerebral abscess often has a very chronic development. Sometimes the only symptoms are the final ones—somnolence and coma. Among the symptoms of temporal abscess is sensory aphasia. Troubles in speech may also occur in abscess on the left side. Hemiplegia may occur on side of body opposite to affected ear. This was observed in five of the cases reported. In all the cases narrated by Poulson a sinus-thrombosis furnished the link between the otitis and the cerebral abscess. Trepanation furnishes, of course, the only means of opening the abscess. The author relates a case of a woman, thirty-two years old, affected with chronic purulent otitis, right side. Patient began to suffer from headache and vomiting. The mastoid was resected, but all the symptoms persisted and prostration increased. The cranium was trephined fifteen millimetres above the auditory meatus, and an epidural abscess was evacuated. The patient remaining, however, in a sleeping condition, and paralysis presenting itself on the left side in the face, arms, and legs, the dura mater was then opened, and a considerable quantity of pus escaped from the temporal lobe. The cavity of the abscess was then drained, and the patient recovered entirely. Nine cases of sinus thrombosis are given—one of the superior and inferior petrosal sinus, the others of the lateral sinus. Some of these cases offered no special symptoms, while others manifested marked pyæmic symptoms. The author is disposed to be satisfied with opening the sinus without resorting to ligation of the internal jugular vein. The author then reviews the various cerebral symptoms in such cases, and advocates an explorative trepanation of the cranium, when retention of pus in the tympanic cavity or mastoid cells can be excluded. Also, when the diagnosis between sinus-thrombosis and cerebral abscess is uncertain, the author advises first opening the lateral sinus, and then, if the examination is negative, to proceed at once to expose the temporal lobe. (*The American Journal of the Medical Sciences*, March, 1892, p. 341.)

### CONJUNCTIVITIS.—Crude Petroleum in.

Dr. A. Trousseau (*Recueil d' Ophthalmologie*, Ann. xiii. No. 5) finds among many substances experimented with, with the idea of finding a substitute for silver nitrate and copper sulphate in the treatment of conjunctivitis, the crude petroleum of the Caucasus alone worthy of especial mention. It is not irritant, is tolerated by the ulcerated cornea without pain, and provokes no complaint or resistance to its application on the part of the patient. Its therapeutic action is superior to that of its deriva-

tives. It was tried in catarrhal, muco-purulent, follicular granular, vernal, and phlyctenular conjunctivitis, and the conclusions reached from this clinical experience and certain laboratory tests of its antiseptic properties are: It is an antiseptic agent favourably influencing conjunctival affections, always well borne, never causing a painful reaction, and is easily applied. It is indicated for children and others that dread the more painful local applications, and is capable of effecting a cure alone in some cases, and in others of hastening or completing a cure when preceded or followed by other remedies, or associated with other recognised antiseptics. (*The American Journal of the Medical Sciences*, January, 1892, p. 93.)

### **MASTOID DISEASE.—Operative Treatment of.**

Dr. H. Knapp, of New York, read a paper entitled, "Operations for Mastoid Disease," in which he reported two cases. In the first there was otorrhea, intense headache, nausea, giddiness and some stupor. In the fourth week the mastoid was opened to the depth of fully half an inch, but no pus was found. The patient was at first relieved, but his symptoms afterwards returned, and he died comatose in the eighth week. The autopsy disclosed diffuse purulent meningitis and a small abscess in the jugular fossa, separated from the wound of operation by a thin layer of healthy bone. Had the operation gone a little deeper it might have saved the patient's life. In the second case the prominent symptom was severe pain, radiating from the mastoid, and bulging of the upper part of the drum membrane. Treatment failed to afford relief, and the mastoid became tender and doughy. An extensive opening in the mastoid disclosed intense congestion of the bone and the membrane lining the air-cells, and a few granulations, which were removed. The patient was relieved by the operation and got quite well. Operation is justified in congestive mastoiditis, which otherwise is apt to persist for years, and lead to sclerosis.

Dr. C. J. Blake, of Boston, reported twenty-three recent cases of operation, with removal of all diseased bone by curetting with a sharp spoon after perforation with a drill. In several cases the cure was complete in two weeks or less; but in some, in which the operation had been long delayed, the cure was slower, and the permanent damage great. In one case death resulted after the inefficient treatment of making an incision only through the soft tissues; and in another, in which the operation was delayed, metastatic irido-choroiditis caused the loss of an eye; there was also involvement of the hip. (*Medical News*, October 17, 1891, p. 464.)



**MERCURY IN SYPHILITIC DISEASES OF THE EYE.**

Galezowski, in the *Recueil d' Ophthalmologie*, An. xiii., No. 3, points out that mercury administered by the digestive tract acts very rapidly on iritis, either plastic or gummatous, not that a radical cure is effected, but the ocular inflammation disappears. Not so with syphilitic choroiditis, which yields to no mercurial administered by the mouth, but is cured almost without exception by mercurial inunction. It is still otherwise with the ataxic atrophies of the optic papilla, which are without doubt usually syphilitic. Here, unfortunately, any anti-syphilitic treatment gives unsatisfactory results. This Galezowski explains on the hypothesis that the action of such medicaments is slow in the case of certain affections occurring in closed cavities, as in choroiditis and affections of the spinal cord. While iritis can be cured in two or three months, choroiditis requires two years; and in the case of optic atrophy the disease outruns the treatment, and produces permanent injury before the cure can be effected. Probably by a course of daily mercurial inunctions, carried out for two consecutive years on the occurrence of the earlier lesions of syphilis, optic atrophy, cerebral syphilis, and such later lesions could always be prevented. (*The American Journal of the Medical Sciences*, November, 1891, p. 548.)

**OPHTHALMIA NEONATORUM.**

Dr. T. B. Schneideman, in a paper read before the Philadelphia County Medical Society, December 19, 1891, and published in the *Medical and Surgical Reporter* for January 23, 1892, advocates the following treatment: The attendants should remove the pus once every hour during the height of the disease. This can be done by gently separating the lids and flooding the conjunctival sac repeatedly until the cleansing fluid returns clear and unmixed with pus. The fluid employed is a rather strong solution of bichloride of mercury—1 to 2,000. To modify the inflamed membrane, a solution of nitrate of silver—ten, twenty, or even forty grains to the ounce—should be applied once, or perhaps twice, in the twenty-four hours to the everted lids by the surgeon. According to Dr. Schneideman, no subsequent washing with sodium chloride solution is necessary. With this treatment Dr. Schneideman has not had a single bad result. In the discussion which followed this paper, Dr. de Schweinitz endorsed the use of nitrate of silver, in the strength of ten to fifteen grains to the ounce, applied at a time when the free secretion of yellow pus indicated the drug. He believed that nitrate of silver acted as a germicide, a superficial caustic, and an alternative. He doubted the germicidal efficiency of bichloride of mercury, as it is ordinarily employed in ophthalmia

neonatorum, on account of the depth to which the gonococci penetrate, and deprecated the use of very strong solutions, lest they exert a depressing effect upon the corneal tissue and induce to ulceration. He recommended that, if bichloride of mercury is employed, a strength of one grain to the pint should be used alternately with a saturated solution of boric acid, but placed the greatest faith in nitrate of silver. He preferred eserine to atrophine in corneal ulceration, provided the condition of the iris did not contra-indicate the former drug. (*The Therapeutic Gazette*, March 15, 1892, p. 201.)

### **TOXIC AMBLYOPIA.—Strychnine in.**

Dr. E. Melville Black makes a strong argument for the use of the nitrate of strychnine in tobacco and alcoholic amblyopia (*New York Medical Journal*, 1891, vol. liv., p. 287). The nitrate is chosen for hypodermatic use because it is less irritating than the other salts. The site chosen is over the biceps muscle, and cleanliness and perfect solution of the drug (eight grains to the ounce in distilled water) are essential; the required dose may go to twenty or twenty-five minims. In dosage of over ten minims he keeps the patient under observation for a half-hour after the injection. He instances four cases in which the patient's present condition, ophthalmoscopic examination and details of treatment were carefully recorded. (*The American Journal of the Medical Sciences*, January, 1892, p. 75.)

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## OBSTETRICS AND GYNÆCOLOGY.

### **CANCER OF UTERUS.—Early Diagnosis of.**

Winter (*Berliner klin. Wochenschrift*, 1891, No. 33) reviews the recent results of extirpation of the cancerous uterus in Germany, showing that the total mortality of the five principal operators is only 8·4 per cent., the lowest being Kaltenbach's (3·3 per cent.). Although a certain number of fatal cases is inevitable on account of the difficulty of absolutely eliminating sepsis, other dangers ought to be avoided by improved technique, so that the mortality can be reduced to 5 per cent. The statistics of high amputation are still better, the Berlin Klinik showing a mortality of 6·5 per cent. (in 155 cases) previous to 1884, since which time no deaths have followed the operation in 64 additional cases. Unfortunately, the remote results of both operations have not been as favourable as could be desired. A local recurrence (in the cicatrix) can usually be expected within two years at the utmost, while recurrence in the lymph-glands and pelvic connective tissue occurs later. This difference has not been clearly defined in the statistics. According to the



writer's observations, after high amputation 38 per cent. of the patients were well at the end of two years, and 26·5 per cent. had no recurrence five years after operation, after which time a return of the disease is exceptional. Fritsch has noted 36 per cent. of cures after vaginal hysterectomy at the end of five years, and Hofmeier 33 per cent. at the end of four. Only a small proportion of the patients with cancer of the uterus are suitable cases for a radical operation (about 25 per cent.), and if one-fourth of these are cured, it follows that only 7 per cent. of the entire number of cancerous patients are cured. In other words, the diagnosis of malignant disease is not made at a sufficiently early stage, and this neglect is traceable to the general practitioner. "The physician to whom the patient first applies decides her fate in the majority of the cases." Hence it is extremely important that he should be familiar with the initial symptoms. Of these a watery vaginal discharge is the most constant, especially in carcinoma of the portio. Menorrhagia, in a patient whose flow has formerly been normal should always awaken suspicion and lead to an examination. Hemorrhage after coitus is an initial symptom of great importance, and when occurring some time after the establishment of the menopause it is almost pathognomonic of malignant disease. Pelvic pain is usually a late symptom, due to secondary parametritis; but intractable sciatica, developing after the menopause, is significant. When a patient with these symptoms applies to her physician she ought certainly to be examined, and if the portio does not present a suspicious appearance, search should be made for cancer higher up in the cervix or corpus uteri. Fragments should be removed for microscopical examination. Patients themselves are often to blame since they defer seeking professional advice until too late, because they have no severe pain, the irregular hemorrhages being attributed to the approaching change of life. It is a peculiar fact that women who have cancer are less likely to fear it than those who have not. In conclusion, the writer urges that both physicians and patients should be trained to recognise the initial symptoms of cancer of the uterus, and to have the diagnosis settled at once. (The American Journal of the Medical Sciences, November, 1891, p. 553.)

### **CANCER OF UTERUS.—Vaginal Hysterectomy for.**

I am thoroughly convinced that the removal of the uterus *per vaginam* for cancer far surpasses in its remote, or permanent, success not only all other operations for cancer of the womb, but also all operations for cancer in other parts of the body. Nor need we wonder at this success, because the lip, breast, penis, and rectum, which are the favourite sites of cancer, are

integral parts and parcels of the body, while the womb is to the body only an appendage, which is merely suspended by stays and guys, and those of a different material. This opinion is substantiated by the remarkable statistics of the Dresden Klinik brought up to date (*Medical and Surgical Reporter*, November 21, 1891, p. 834 ; from *Archiv für Gynäkologie*, Band xl., Heft 2). In these Leisse presents a tabulated statement of the histories of all of the patients, so far as they could be obtained. These histories are compiled with great care. Of eighty patients that were heard from upwards of two years after the operation, 56·25 per cent. were still living. As eight of the deaths were not due to a recurrence of the disease, the actual mortality was only 17·8 per cent. Thirty-seven of the forty-five surviving patients were examined at the klinik, so that there was no question as to their local condition ; and in the other cases reports were received from competent physicians. The following are the facts : Of eighty patients examined over two years after the operation, forty-five were free from recurrence ; 58·6 per cent. (of fifty-eight patients examined) were well after three years ; 59·5 per cent. (of forty-two) after four years ; 60 per cent. (of thirty) after five years ; 66·6 per cent. (of nine) after six years ; and the two patients that had survived the operation seven years were perfectly well. The best showing, however, is by Leopold, who states that out of seventy-six of his cases remaining under observation after recovery, seventy-two were still well, without recurrence of the disease, from one to five and a half years after the operation. Undoubtedly the general consent of gynecologists has fixed upon the vagina as the best channel through which the womb should be extirpated, whether for cancer, for incurable prolapse, or for fibroid tumour, provided the womb is not unduly enlarged—that is to say, provided the womb is small enough to be delivered through the vagina and vulva. (Dr. Goodell, Philadelphia, *Medical News*, December 5, 1891, p. 641.)

[See also article by Dr. W. Goodell "On the Technique of Vaginal Hysterectomy," at p. 393 of this volume of the *Retrospect*.]

### UTERUS.—Backward Displacement of, and their Relation to Sterility and Abortion.

At the Obstetrical Society, on December 2, 1891, a paper on this subject was read by Dr. G. Ernest Herman. The paper was based on an analysis of 3641 consecutive cases in the London Hospital obstetric out-patient department. The author compared cases of backward displacement of the uterus with those in which this displacement was not present. His conclusions



were as follows:—(1) That backward displacement of the uterus has no appreciable influence in the production of absolute sterility. (2) That backward displacement of the uterus is associated with a small amount of relative sterility. (3) That this association is chiefly in the later years of the child-bearing period. (4) That backward displacement of the uterus has no appreciable influence in favouring the occurrence of habitual abortion. (5) That it is associated with a tendency to abortion, but that this tendency is not so great as that produced by some other causes. (6) That the tendency to abortion associated with backward displacement of the uterus is chiefly in the later years of the child-bearing period. The author did not think that mechanical conditions were sufficient to explain these facts. He regarded the displacement, many of the symptoms associated with it, and the relative sterility and tendency to abortion, as alike manifestations of a condition of the general health. (*The Lancet*, December 10, 1891, p. 1394.)

### VAGINA.—Primary Cancer of

Hecht (Inaugural Dissertation: abstract in *Centralblatt für Gynäkologie*, 1891, No. 38) has made an exhaustive study of the literature of this subject. Among 4,507 cases of cancer in females who were examined at the Vienna clinics in ten years he found only fifty cases of primary cancer of the vagina, or 1·1 per cent. It was most frequent between the ages of thirty and forty. Among the probable etiological factors were excessive childbearing and mechanical irritation, such as long-standing prolapsus and the wearing of pessaries. The disease appears under two forms—the cancrroid and the diffuse scirrhus—and is usually located on the posterior wall. The initial symptoms are profuse leucorrhœa, which later becomes a foul watery discharge, and irregular hemorrhages during coitus and defecation. Later, pain and vesical symptoms appear. The portio and external genitals are involved late, if at all, but the lymph-glands are usually affected. Metastases are rare; among the whole number of cases analysed there were only two of general carcinosis. Death is due to exhaustion. It is sometimes difficult to distinguish primary cancer of the vagina from disease originating in the portio; condyloma, sloughing fibrous polypus and sarcoma are distinguishable microscopically. The only treatment is radical removal with knife, scissors, or sharp spoon, followed by thorough cauterisation. Cæsarean section has been performed on account of obstruction due to cancer of the vagina, but with bad results, only two patients having been saved out of twelve. (*The American Journal of the Medical Sciences*, November, 1891, p. 555.)

# Medicine.

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## GENERAL MEDICINE AND THERAPEUTICS.

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### ART. 1.—A CASE OF ACROMEGALY.

By ALFRED G. BARRS, M.D., M.R.C.P., Senior Assistant Physician to the General Infirmary at Leeds.

The patient, A. W—, aged twenty-eight, laundress, was born near Brough in East Yorkshire, but latterly has lived at Altofts, near Normanton. Her father died at the age of forty-three (cause unknown). Her mother is living and well. She is the only child of the marriage. In childhood she had scarlet fever and measles, and in March, 1891, she had influenza. Menstruation began when she was just over eleven years old, and was quite regular up to two years ago, since when there has been total amenorrhœa. The menstrual discharge was always scanty, and never lasted more than a day. During girlhood, although she was well grown and developed in every way, she was never strong. She was always more or less short of breath on exertion, and always had a pain in the left submammary region; still, up to four years ago, she did not consider herself to be the subject of any definite complaint. Four years ago she began to feel certain disturbances in her hands, which she describes as “nasty prickly sensations and a feeling of swelling,” and there is no doubt that the hands, feet, and face were at this time getting larger. The feet also felt as though “asleep,” and she frequently dropped what she was carrying through being unable to feel it, as it were. The limbs are described as feeling heavy and powerless, and are always worse after exertion—such as a day’s washing. She frequently finds herself unable to fasten her clothes on account of the numbness and clumsiness of her hands, though her handwriting is as good as ever it was. On account of the increasing size of the fingers she is unable to get a thimble large enough; the thimble which four years ago she could use with ease is now not quite large enough for the little finger.

She may be described as a big woman of peculiarly cheerful disposition and good intelligence. She weighs 16 st. 2 lb., and her general figure is such as that weight would indicate. She is distinctly round-backed, so much so that her chin is carried almost on her chest. She has the use of all her limbs with



the qualifications mentioned above. She is a little short of breath on exertion. Her complexion is striking, and, with the changes in the facial contour, gives her a countenance very much like that of a Chinaman of her size. The voice is husky and distinctly masculine in character. There is always profuse sweating of the palms and soles, and that of the latter is distinctly offensive. This did not exist before four years ago. The appetite is not increased. There has been absolute amenorrhœa for two years. The generative organs were not examined. The hands present in a marked degree all the characteristics of acromegaly as described by Souza-Leite, and contrast strangely with the natural, or almost natural, appearances of the other parts of the upper limbs (see Fig. 1). The whole



FIG. 1.

hand is enlarged without any or little departure from the natural model, and of all the parts of the member the fingers show the greatest increase in size. The digits, showing well the sausage-shape, and the nails, which look too small for the fingers, are broader than they are long, flat, and show a well-marked tendency to longitudinal striation. The skin of the hands has a sodden appearance from the excessive sweating to which she is subject; it is soft and supple, of a rather earthy tint, and shows a normal amount of folding about the joints. The enlargement clearly affects the bones as well as the soft parts; the latter, in the palm especially, are peculiarly abundant and loose.

The size of the nose, the heavy pointed chin, the broadening of the inter-malar measurement, and the eversion of the lower lip are very striking. She has a distinctly prognathous appearance in profile. The hair is very abundant and coarse. The ears are certainly large. There is no distinct change in the bony prominences of the cranium. The neck is short and thick. The skin is much folded about the angle of the jaw and behind the ear, and there are a number of small sebaceous cysts scattered about the region in question. The feet also are characteristic, and present changes quite similar to those in the hands—that is to say, they are large, heavy, and thick, without



FIG. 2.

much, if any, increase in their length. The soft parts of the sole are curiously redundant, giving rise to a marked exaggeration of the foldings natural to the part. The epidermis is here and there thickened, and apparently about to separate (see Fig. 2). The patella is much enlarged.

The following are selected from a large number of measurements made of the head and extremities: Height of patient, 167·5 c.m.; circumference of the neck between the hyoid bone and upper part of thyroid cartilage, 36·5 c.m.; circumference of head, 57·5 c.m.; breadth of head from mastoid process to mastoid process, 15·5 c.m.; length of nose, 6 c.m.;



greatest distance between outer surfaces of malar bones, 14·5 c.m. ; lower jaw, vertical measurement, from free border of gums to lower part of symphysis, 4·50 c.m. ; greatest length of ears, 6·50 c.m. ; greatest breadth of ears, 3·45 c.m. ; length of forearm from the olecranon process to styloid process of ulna, 26 c.m. ; circumference of forearm at middle, 25 c.m. ; circumference of forearm at wrist, 19 c.m. ; length of hand from wrist to tip of middle finger, 20 c.m. ; length of middle finger from palmar fold to tip, 9·1 c.m. ; circumference of middle finger, 7·8 c.m. ; circumference of little finger, 6·7 c.m. ; antero-posterior diameter of middle finger, 3 c.m. ; lateral posterior diameter of middle finger, 3·7 c.m. ; length of nail of middle finger, 1 c.m. ; breadth of nail of middle finger, 1·5 c.m. ; circumference of hand without thumb, 23 c.m. ; circumference of hand in obstetric position, with thumb, 28·5 c.m. ; breadth of hand at metacarpo-phalangeal joint, 10·5 c.m. ; vertical diameter of patella, 6·75 c.m. ; greatest circumference of calf, 39 c.m. ; circumference of ankle just above tip of internal malleolus, 26·5 c.m. ; greatest length of foot, 25 c.m. ; circumference over heel and instep, 37 c.m. ; greatest width of foot, 10·5 c.m. ; circumference of great toe, 10·5 c.m. ; length of great toe-nail, 2 c.m. ; length of great toe from proximal joint to tip, 7·5 c.m. ; length of second toe from proximal joint to tip, 6·25 c.m.

These measurements were made in accordance with those used by Dr. Ross (after Marié), in his case published in the *International Clinics*, vol. i., 1891, with which they may be compared. The thorax is normal in shape, and there is no substernal dulness. The thyroid region presents no peculiarity. The general musculature is wanting in tone, but otherwise shows no deviation from normal. The tendon reflexes are normal. The cardio-vascular mechanism is normal. The urine is normal in quantity, and contains neither albumen nor sugar. So far as subjective symptoms are concerned, in addition to the sensation of numbness and pins-and-needles in the hands and feet, there is a fairly constant headache of not very great intensity. This headache comes on in paroxysms, and occasionally causes vomiting. The special senses are not complained of. My colleague, Mr. Secker Walker, was good enough to examine the eyes for me, and found the visual field and the fundus quite normal. Compared with many cases the development of the typical limb changes of acromegaly in this instance has been unusually rapid, and in this respect it resembles two interesting examples recently recorded by Guénou and Surmont. These cases are illustrated by most beautiful photogravures. Souza-Leite has collected from English literature six cases which he regards as

true examples of acromegaly. One of these, published by Dr. Tresilian under the heading "A case of Myxœdema," appears to me to be correctly classed by its author, and not to be an example of the condition described by Marié. Mr. Hutchinson records a case, and says in the same publication for 1890 that he saw three cases in 1889. Mr. Ruttle has recorded a genuine example with good photographs. Dr. Ross's case, previously mentioned, terminated fatally, and so gave the only opportunity which has occurred in this country for a demonstration of the morbid anatomy of acromegaly. A short account of the post mortem changes found in this case was published in *The Lancet* by Dr. Judson Bury. The changes consisted in "a large pulpy tumour at the base of the brain excavating the sella turcica and extending from the optic chiasma (which with the optic tracts was much compressed) to the cerebellum. Microscopically, it had the appearance of a glioma. Each lobe of the thyroid was enlarged and contained a cyst. Some pendant masses of tissue attached to the front of the pericardium, similar to pieces of a persistent thymus, showed only fat-cells under the microscope." Dr. Berkeley records the last case with which I am acquainted. It occurred in the person of a negress aged sixty, the first example, Dr. Berkeley says, of the disease in the negro race, and the forty-fifth case on record.—*The Lancet*, March 26, 1892, p. 683.

## 2.—ON ŒDEMA IN GRAVES' DISEASE.

By ARTHUR MAUDE, M.R.C.S., Westerham, Kent.

Œdema is a very common phenomenon in Graves' disease, and affects several sites, apparently from several causes.

Slight swelling of the ankles and feet has been present in one-third of the cases in which I have sought for it. Dr. Hector Mackenzie, in his excellent lectures on this disease, states that many of his patients complained of slight swelling of the feet towards night, but in all instances save two he found some good cause to account for it, such as varicose veins.

Marié noted œdema of the legs in two cases, but the only important paper I can discover on the subject is Millard's thesis, *Les Œdèmes dans la Maladie de Basedow* (Paris, 1888), in which he has collected ten cases.

Dropsy in this disease has three varieties.

1. *Œdema of cardiac origin*.—These cases have no characters distinguishing them from those of ordinary cardiac dropsy, as presented in mitral disease; in fact, they may be due to mitral disease co-existing with Graves' disease. Organic valvular disease is, however, a comparatively rare accompaniment of



this disorder, and the commoner cardiac lesion producing dropsy is dilatation with mitral insufficiency and feeble ventricular action (asystole). To this cause Marié, following Debove, ascribes the occurrence of dropsy in all cases.

We must bear in mind, moreover, the fact that dilatation of the heart in Graves' disease need not be a gradual process secondary to muscular enfeeblement of the walls, but may be a sudden active condition of nervous origin. And, as Dr. West points out, dilatation of this sort may account for those mysterious cases of sudden death in the disease which are not infrequent.

Obviously, œdema of cardiac origin may be progressive, become general, and extend to the serous cavities or the lungs.

A case was reported years ago by Dr. Lauder Brunton, in which rapid, almost sudden, death in Graves' disease was found (post mortem) to be due apparently to an insidious and rapid œdema of the lungs.

2. *Œdema of nervous origin.*—In a far more numerous class of cases we find a slight anasarca of the insteps and lower legs, which does not tend to increase. Though it may show itself from time to time for years, it is transient, appearing usually at the close of day, and disappearing with the maintenance of the recumbent position. This condition may be found without any signs of cardiac dilatation; in fact, when the heart is hypertrophied and acting with considerable force. If, however, the œdema tends to extend up the legs, the condition of the heart should be carefully investigated. For dropsy, which has been at first nervous in origin, the characteristic dropsy of Graves' disease may be perpetuated and extended by cardiac disability.

3. *Transitory œdema.*—The rarest class is that of irregular, fugitive, unsymmetrical dropsies. Puffy swelling appears in various parts of the face, neck, arms, and hands; the cheeks and eyelids are favourite positions, while both limbs of one side of the body may be affected.

This form of œdema is very transitory—in fact, may only last a few hours.

I have under observation a woman, aged forty, who has had Graves' disease about three years. There is little and a very varying degree of goître, and no exophthalmos; but the rapid pulse, tremor, gastro-intestinal crises, hemorrhages (chiefly pulmonary), and psychical conditions are well marked.

The feet and ankles are frequently, but not constantly, swollen, the swelling sometimes extending to the knees. Her cheeks and lower eyelids are often swollen in the mornings, and the backs of both hands sometimes swell. The œdema in the upper extremities never lasts more than a few hours. The

patient has old-standing tenosynovitis of the extensor sheaths of one wrist, and when œdema occurs in the hands these sheaths always swell. This is not the result of exertion, for she has been almost bedridden for a long time. I have examined the urine repeatedly, and never found albumen. There is no evidence of valvular disease, and when the œdema first appeared there seemed no cardiac dilatation; latterly, however, dilatation has certainly come on, but at the same time she has become so feeble as to be confined entirely to bed, and there has lately been no œdema at all.

On one occasion I gave her a subcutaneous injection of digitalin in one arm, which was followed by complete and absolute paralysis of all the muscles of that arm below the shoulder, and slight puffiness of the whole limb. This condition lasted only a few hours, and there were no signs of cellulitis. Her family is very neurotic.

Rendu has described an œdematous swelling which appeared in both supra-clavicular hollows in several patients having Graves' disease. It resembled a double hernia of the lung.

Swelling of the eyelids has been described at great length by M. Parinaud. Dr. Hector Mackenzie found it in three of his cases, all of old standing, and he had seen it in two others at St. Thomas's Hospital. Dr. Gowers also mentions its occurrence after apparent recovery from other symptoms. It affects the upper lids chiefly; it is not a true œdema; no pitting follows pressure, and it does not cause the closure of the lids which is produced by ordinary œdema; in fact, it may be present with retraction of the lids. There is generally an injected condition of the small veins with it. The swelling may accompany proptosis, but has no relation to it, for M. Parinaud found it present in two patients who had neither goître nor exophthalmos, and in my case the eyes have never been prominent.

In my case also the condition was transitory, but Vigouroux remarks that it is very persistent, and this must have been so in Dr. Gowers' case. Vigouroux ascribes it to paresis of the orbicularis, and states that when contraction of that muscle is effected by an electric current the swelling disappears, driven back by the pressure of the subcutaneous fascia.

Another form of dropsy still more rare I find noted in two instances. This is a transitory swelling of joints, an "intermittent hydroarthrosis." The condition has been described by Pierson, but I am unable to find the reference.

My second and third group of dropsies are clearly of vasomotor origin, as are the serous secretions into the stomach and intestines so common in Graves' disease, and are probably due to a paralysis of vaso-constrictor nerves. A point I noted in my case above was that she is singularly free from the flushes which are so



common, though sweating and diarrhœa are very excessive at times.

In distinguishing these various forms of swelling, we must be guided by the position and degree. If situated only on the face and upper limbs, or if unsymmetrical, it is certainly of nervous origin, and it may be so if it affects the feet, but is only slight and evanescent. In all cases of course the heart and urine should be carefully examined; for the occurrence of œdema due to dilatation of the heart is a serious symptom. There is little to be said about treatment. When merely local the ordinary means of rest and position will be sufficient. If it be due to cardiac conditions digitalis should be used freely.

When purely nervous in origin M. Dieulafoy recommends small doses of ipecacuanha at frequent intervals, which it is better to combine with opium, as in the form of Dover's powder.—*The Practitioner*, December, 1891, p. 401.

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### 3.—ON SOME PAINFUL AFFECTIONS FOLLOWING INFLUENZA.

By A. ERNEST SANSON, M.D., F.R.C.P., Physician to the  
London Hospital.

I propose in this short communication to pursue the inductive method of reasoning in regard to some cases which at one time caused me considerable perplexity. I will first mention a case which initiated my difficulties. A gentleman aged fifty-three, who for many months previously had been in fair average health, was taken during the night with severe pain in the right hypochondrium. The signs simulated those of hepatic colic. He took a mild aperient, and the attack passed away after one to two hours and he slept. The following day the bowels were properly opened, there was no evidence of absence of bile from the motions, the urine was in all respects normal and contained no bile nor excess of colouring matter. The attacks of severe pain, however, recurred at intervals—mostly in the night, but sometimes during the day—for about ten days, treatment by opium and belladonna only relieving them. It seemed that the gall-bladder could be mapped out by the area of tenderness, but never was there the slightest jaundice. On one night there was sharp diarrhœa. I could only say that the attacks were those of hepatalgia of paroxysmal recurrence. In hunting about for a cause the only antecedent which seemed at all probable in this direction was an attack of influenza contracted in Paris at the very earliest time of the epidemic, and followed by protracted enfeeblement. I computed that nearly twenty

months must have elapsed between the original attack and these consequences, if they were consequences. There was no evidence of reinfection, but of course this was possible.

The key seemed to be furnished by a number of experiences which came to me just about the same period as this first instance. In all there was fair evidence of an attack of influenza followed at intervals, extraordinarily variable, by signs of extreme pain and distress. In twenty-four such cases the sites of pain could be thus tabulated:—1. Epigastrium, nine cases; abdomen generally, two cases; localised in hepatic area, one case. 2. Head, various sites, seven cases; supra-orbital region, one case; right inferior maxilla, one case. 3. Heart region, seven cases. 4. Extremities: hips and legs, two cases; calves, two cases; arms, two cases; right sciatic region, one case; fingers, one case; lumbar region, one case.

In Group 1 in some cases the pain at the epigastrium was nearly constant. For instance, a man aged sixty-six, who had been previously quite healthy, caught influenza at Christmas 1890, and had never felt well since. Six months afterwards he had constant pain at the epigastrium, with craving for food. Food slightly relieved the pain, but soon after nausea occurred, with pyrosis. In most cases the pain was paroxysmal, and frequently nocturnal, sometimes attended with vomiting or pyrosis. Peculiar symptoms occurred in some of these cases, as “a feeling as of a cold wind over the chest, and inability to take a deep breath.” In some the signs of colic, as in the first case mentioned, were closely simulated; frequently there was retching, but the tendency was rather to diarrhœa than to constipation. In one case, a man of sixty-three suffering from intense epigastric pain, with sense of heavy weight preventing sleep, and some vomiting, I found a small patch of herpes zoster below the angle of the right scapula.

In Group 2 were various neuralgiæ. In one man aged thirty-eight there was intense supra-orbital neuralgia varying from side to side; previously there had been rigor and abdominal pain like colic, and then sweating and palpitation. He had suffered from influenza twelve months previously, but no ailment since. In another case, a lady aged twenty-five, urticaria followed influenza, and twelve months afterwards attacks of vertigo, with palpitation of the heart and pain referred to the occipital regions. A lady of thirty-seven, who had suffered from an attack of influenza in May, 1891, averred that two months afterwards she commenced to have headache, from which she had never been free in her waking hours for three months subsequently; she also suffered from pain on movement of the right lower jaw. She had tremors and tinnitus aurium, but no vertigo.



In Group 3 some of the patients referred the pain which they suffered very closely to the region of the heart. In a few cases the pain was persistent, but in most paroxysmal. A lady, aged forty-two, who had suffered from influenza nine months previously, described the pain as constant and dull, limited to the heart region. A gentleman, aged thirty-six, whose attack dated sixteen months previously, was wearied with such dull aching; it was rather more diffused than in the former case. In another gentleman, aged forty-two, the constant pain in the cardiac region was accompanied by a tingling down the left arm. The most important and characteristic cases in this group, however, simulated angina pectoris. A gentleman, aged thirty-one, typically athletic, who had never suffered from illness before his attack of influenza, which was very severe, was taken five months afterwards with sudden and violent pain at the heart, eventuating in syncope. He was standing with his back to the fireplace, talking with friends, when the attack seized him with violence, and he fell unconscious upon the hearth-rug. There was no epileptoid sign. Another attack occurred a week after. There could be no doubt from collateral evidence that the patient became faint to unconsciousness. In the intervals no notable deviation from health could be detected; the left ventricle was slightly hypertrophied, but not more so than could be expected in an athletic subject. The patient described the pain as of the character of a "grip" or "screw" at the heart; he experienced no coldness, and repudiated any sense of impending death. There were occasionally also some attacks of dyspnoea, occurring independently of exertion. Nearly at the same time at which this patient came under my observation a gentleman came under my care with like symptoms, in whom there was no evidence of an attack of influenza. He presented the appearance of typical good health, but suffered attacks of terrible pain at the heart, ending in complete unconsciousness. On some occasions the attacks were followed by wild excitement, and the patient had to be restrained from self-violence. I have reason to believe that in both these cases there was complete recovery. In a lady, aged forty-one, attacks of intense pain were initiated by exertion. The pain was localised in the second left intercostal space—presumably over the superior cardiac plexus—and here was a tender spot. The pulsations of the heart were painfully felt when in the recumbent position. In some other cases there was a feeling of impending death, as in true angina pectoris, though the pain was much less severe. This occurred in a gentleman aged thirty-three, sixteen months after an attack of influenza. Pain referred to the heart, however, had occurred at intervals ever since his attack. In the case of another gentleman, aged thirty-seven, the sensation was

described as of an arrest of the heart, as if the pendulum of a clock had been stopped at one swing. With this the patient said, "I feel as if I were going to die." In some cases there was a manifest slowing of the pulse; in others an irregularity. Sometimes a slow alternated with a quick pulse. Fifteen months after an attack of influenza I counted the pulse of a lady, aged twenty-two, as fifty-six. In most cases the rate was rapid, and I do not remember one case in which the arterial tension was unduly prolonged. This absence of prolonged arterial tension, in my opinion, took the cases out of the category of true angina pectoris. I have not heard that any case was fatal.

It is no part of my purpose to pursue the question of the cardiac phenomena of influenza. These furnish most interesting lessons, but I am concerned now only with the manifestations of *pain*. I turn now to Group 4, in which there were painful affections of the extremities. A lady, aged twenty-five, who had an attack attended with high fever four months previously, complained of intense aching in both arms. This occurred chiefly at night, and she actually wept on account of the pain. Previously to the manifestation in the arms she had suffered pain in the calves of the legs resembling that of neuritis. In another case of a gentleman, aged forty-one, the pain was referred to the lumbar regions more on the left side, to the right shoulder and the left wrist, to the course of the right sciatic nerve, and to the muscles of the thigh. There were fearful exacerbations, chiefly nocturnal, so that the patient, previously a healthy man, actually shrieked on account of the pain. In the case of a female, aged thirty-three, pain was localised in the muscles of the calves of the leg and of the thigh. The pain was strongly aggravated after food, especially meat. In another female, aged twenty-three, pain was extremely violent in the thighs and legs, and there were attacks of faintness. Subsequently the suffering was localised in the course of the right sciatic nerve. It was subject to remissions with severe nocturnal exacerbations; there were also shooting pains at the epigastrium. The case was of alarming intensity, but recovered. In a lady aged forty-eight pain was referred to the right hip and to the right arm; it extended from the right shoulders to the fingers, and all movement caused pain.

There could be little doubt that in these cases there was a form of neuritis. I met with other analogous instances in which there had been no history of influenza: one case in a child in whom there was severe pain in the calves, dropped feet, absolute loss of motor power, and, in fact, all the signs of neuritis of the alcoholic form. Any causation by alcohol was in this case quite out of the question; no doubt it was due to some



infectious cause, and resembled the cases of peripheral neuritis, due to no traceable contagion, recorded by Déjérine and others.

In this summary of my personal experiences I have dealt with no cases of the earliest manifestations of influenza: all were in patients whose attack had passed away and who were not confined to their homes. The periods between the attack of influenza and the manifestations of symptoms of pain varied from a few weeks to twenty months.

The evidence appears to me to confirm the view of Dr. Althaus that the *materies morbi* of influenza resembles the syphilitic virus in its tendency to attack many parts of the nervous system after the attack is over, but surpasses the syphilitic toxine in virulence and in rapidity of action. Dr. Althaus has adopted the deductive method in his reasoning. Starting from certain probabilities, he has worked out the problems of the effects of the *materies morbi* if it should specially attack certain areas of the central nervous system. He concludes that the different forms of influenza are due to irritant poisoning of the bulb and the nerve nuclei contained in it. Adopting a converse method, that of logical induction, and taking my arguments alone from personal experience, I have arrived at a similar conclusion to Dr. Althaus in so far as the proposition is concerned—that the virus of influenza especially affects the nervous system. Leaving the question of the acute and early manifestations, however, which I agree with Dr. Althaus in considering to be due to involvements of certain areas in the medulla oblongata, it appears to me most probable that the consequent phenomena are better to be explained by inflammatory changes in certain peripheral parts of the nervous system. In regard to the *viscera neuralgia*, the hepatalgia, the gastralgia, and cardialgia, there are signs of localisation and, in some instances, of local tenderness that point to a local cause. In some such it seems probable that the sympathetic fibres and ganglia are alone affected. In other cases, as in those in which there seems to be temporary arrest of the heart's action, retching, vomiting, and various disturbances of digestion, it is most probable that the vagus is involved in greater or less degree; but here also the effects might be due to peripheral irritation. In the sensori-motor manifestations it can scarcely be possible to avoid the conclusion that there is in existence a form of neuritis analogous to that which is caused by many other toxins. The conclusion, therefore, which I have come to is that the various affections I have briefly described are the remote consequences of the influenza infection, and that their proximate cause is a peripheral neuritis affecting the sympathetic ganglia and nerves, the vagus, and the sensori-motor nerve trunks.—*The Lancet*, January 2, 1892, p. 14.

#### 4.—ON OXYGEN GAS IN ACUTE RESPIRATORY AFFECTIONS.

By E. MARKHAM SKERRITT, M.D., F.R.C.P., Senior Physician to the Bristol General Hospital.

My experience of the effects of oxygen in the following case has convinced me that Drs. Lauder Brunton and Prickett have done good service in calling attention afresh to the therapeutic use of this gas. As in the instance which they describe, a fatal issue was not averted; but the effect was such as to indicate the probable value of oxygen under more favourable conditions.

Last October, Dr. Parsons, of Cotham, asked me to see in consultation with him a gentleman, aged sixty-six, who for many years had suffered from bronchitis and emphysema. At that time there were no urgent symptoms, but the patient had advanced pulmonary emphysema, with secondary dilatation of the heart, and in consequence was always the subject of more or less dyspnœa.

On January 24th I saw him again in consultation with Dr. Parsons and Dr. Newman, of Bristol. His temperature was then  $102.8^{\circ}$ , and he was wandering; dyspnœa and cyanosis were very marked, and extensive bronchitis and broncho-pneumonia existed. Next day there was no improvement, and we therefore decided to administer oxygen. At 7 p.m., when the inhalations of the gas were begun, the pulse was rapidly failing, the surface was very dusky, and the patient was fast approaching his end. The immediate effect of the oxygen was most striking; the pulse improved wonderfully in tone, and the cyanosis completely disappeared; as the hands were watched the blue colour under the nails could be seen fading away and giving place to a healthy pink. The change was so marked that it was evident to all present. When the inhalation had ceased for a few minutes, however, the pulse again began to fail and the cyanosis to return—to be again removed by the fresh administration of the gas. This sequence recurred again and again, until at length the oxygen was given more or less continuously. Strychnine was also injected subcutaneously. In the early hours of the following morning, however, the effect began to be less marked, and the patient gradually sank and died about 9 a.m.

The influence of the oxygen in this case in removing cyanosis was extraordinary and altogether beyond doubt. The conditions under which it was given, however, were most unfavourable. The occurrence of extensive bronchitis and broncho-pneumonia upon long-standing and advanced emphysema with weakened heart made the outlook practically hopeless; but we were convinced that at all events life was prolonged by some hours,



and Dr. MacCarthy, of Worcester, who was present during the night and kindly helped with the inhalations, concurred in this view. In my article in Cassell's *Year Book of Treatment for 1892* (p. 40, sec. 2) reference is made to a case of pneumonia reported by Dr. Blodgett, in the *Boston Medical and Surgical Journal*, in which the influence of oxygen is said to have been "almost as pronounced and evident as is that of ligature in hemorrhage," and in the face of our experience this can hardly be considered an exaggeration. I have never seen such an extraordinary effect upon cyanosis produced by any other means, and for the future in any case of acute respiratory affection threatening to prove fatal I shall not consider that everything practicable has been done unless a fair trial has been given to oxygen.

The gas was obtained in cylinders from Brin's Oxygen Company, 34, Victoria Street, Westminster, and by the courtesy of the local agent, Mr. C. H. James, of 30, Broad Street, Bristol, it was received in Bristol within five hours of the despatch of the order. The company supply a simple apparatus, consisting of a rubber bag connected with the cylinder, and also with a tube to which a mouthpiece can be attached. The bag can be hung up above the level of the patient, so that the gas which enters it from the cylinder escapes slowly through the delivery tube by its own weight and the collapse of the bag.

When the inhalation was begun the patient was breathing through the mouth; but directly the end of the tube was put into his mouth he grasped it with his lips and breathed through the nose alone. The tube was therefore fitted into an ordinary naso-oral celluloid inhaler, which answered well. No unpleasant effects were produced. It is better to use the bag rather than to give the gas direct from the cylinder, as it is contained in the latter under such pressure that it is difficult to regulate its escape.

Now that pneumonia and bronchitis are so prevalent and so fatal, the recognition of the value of oxygen in staving off asphyxia and stimulating the heart may lead to the saving of life in otherwise hopeless cases.—*British Medical Journal*, February 6, 1892, p. 269.

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#### 5.—ON THE CARDIAC BRUITS OF CHLOROSIS.

By ALFRED G. BARRS, M.D., M.R.C.P., Assistant Physician  
to the General Infirmary at Leeds.

In the medical out-patient department of the Leeds Infirmary, during the last two and a half years, I have been able to record the presence or absence of cardiac bruits in 205 cases of simple chlorosis. Cardiac bruits were present in 115 cases, and absent in 90 cases.

In the 115 cases in which bruits were present, their locality was recorded as follows:—Asystolic bruit, audible at the base only, in 56 cases; asystolic bruit, audible at the apex only, in 13 cases; asystolic bruit, audible at the base and apex, in 24 cases; asystolic bruit, audible at the base, apex, and back, in 22 cases = 115 cases. So that in 102 cases a bruit, always systolic in time, was heard at the base, wherever else it might be heard, showing the great preponderance of basic bruits over apical bruits pure and simple—a fact in accord with general experience.

The cases in which the systolic bruit was audible at the base, at the apex, and in the back are naturally those which will excite the most interest, and it is to them particularly that I intend the few remarks which follow to apply; at the same time it will be perceived that whatever can be said of the chlorotic bruit following, in its locality, rhythm and conduction, all the characters of the mitral regurgitant bruit of organic disease must be applicable *pari passu* to all cardiac bruits arising in the chlorotic state.

I may at once assure the reader that I have no intention of launching into any theoretical disquisition upon the causation of the anæmic murmur beyond the little that is necessary to elucidate the important clinical facts, as they seem to me, which these figures put before us.

It is now about three years ago that I became aware of the fact that in a certain proportion of cases of chlorosis a systolic murmur may be heard, not only at the base and apex, but also at the angle of the left scapula and in its immediate neighbourhood, and since then I have been careful to note the locality of all bruits heard in cases of that disease, with the result shown in the figures given above.

The bruits were in all cases clear and distinct, though usually of a soft, blowing character, and audible to the students frequenting the out-patient room, so that there could be no reasonable doubt attaching to the observations. But I am quite sure that now and again the anæmic murmur may be observed to come and go, so that at one time it may be audible and at another not so. Hope noticed this fact, for in his work on "Diseases of the Heart" he says, speaking of the inorganic murmur: "The murmur is not constant, but occasional, coming on whenever the circulation is excited, and for exciting it the most trivial causes, as Laennec has observed, are sufficient."

In the crush and hurry of the out-patient rooms it has been impossible, I am sorry to say, for me to record accurately the concomitant conditions of the heart, but there is no doubt that in the cases presenting a bruit audible at the base, the apex, and in the back, marked changes in the character of the impulse



and in the locality of the apex-beat were almost always present, indicating dilatation of the ventricle or ventricles and an increased force of the cardiac contraction. So well marked and constant have these changes been, that I have found myself able, with tolerable certainty, to predict the bruits to be heard after placing the hand upon the præcordium. These changes in the cardiac chambers, the result of anæmia, were first seriously studied in this country by the late Dr. Pearson Irvine, who made an elaborate communication to the Royal Medical and Chirurgical Society on May 22nd, 1877, on the subject, in which he stated that "The apex-beat in chlorotics is carried too far outward, is too diffuse, and in this respect corresponds with the general cardiac impulse, which is usually 'slapping' and like that met with in organic disease." This statement is quite in accord with my own observations, the conditions described by Dr. Irvine being most marked in the twenty-two cases in which the bruit was audible in the back as well as at the apex and base.

Speaking from my own cases, the duration of the cardiac murmur of chlorosis is not long after the patient has been put under efficient treatment by iron. I should say that, *as a rule*, all murmurs have disappeared at the end of three weeks on the average. In the base, apex, and back cases, the order of their disappearance was the reverse of that named, the basic murmur being the last to depart. This seems to suggest what I have no doubt is the fact—that whatever the mechanical conditions giving rise to the bruits may be, the basic bruit is the earliest and mildest result of them, the back bruit the latest and most serious.

In regard to the general conditions attendant upon bruits in chlorosis, I have found it impossible to predict with certainty any cardiac change that may be present from the intensity of the pallor, the duration of the amenorrhœa, or the obstinacy of the constipation—those cases in which the blood change seemed greatest having sometimes no bruit at all, while those which had a minimum degree of pallor might present bruits audible at the base, apex, and back.

An apex murmur, systolic in time and conducted to the angle of the left scapula, has usually been held to be distinctive of mitral regurgitation; and, further, by those who do not agree that mitral regurgitation may take place from functional or recoverable conditions of the mitral orifice and its valve, is also held to be distinctive of organic disease. I well remember that Dr. Fagge always taught that a systolic bruit audible at the apex only might be either organic or inorganic in its origin; but if the murmur was also audible at the angle of the scapula, then there could be no reasonable doubt as to the organic nature

of the condition giving rise to the abnormal sound. In his article on "Diseases of the Valves of the Heart," Dr. Fagge, after quoting Dr. Bristowe, Dr. Austin Flint, and Dr. Andrew, says: "These authorities believe that there are two criteria which may be applied to the determination of the fact that in a particular case a systolic apex murmur is really due to mitral regurgitation. The criteria are: 1. That the murmur should be audible in the left side of the back about the inferior angle of the scapula. 2. That the pulmonary second sound should be intensified." He then says, a little later on in the same article: "My own views with regard to the interpretation of systolic apex murmur may be summed up as follows: 1. If such a murmur be clearly audible in the back, it indicates mitral regurgitation. 2. If such a murmur be heard only at the heart's apex, we are unable at the present time to pronounce any positive opinion as to its cause, &c." I think there can be no doubt, from the title and context of Dr. Fagge's article that he uses the term "mitral regurgitation" as synonymous with "mitral disease."

Walshe, speaking of hæmic murmurs, says: "They are only in exceptional cases audible below the nipple, and never within my experience perceptible as far as the left apex or outward toward the axilla." He says also in a note: "I have never yet heard in a purely chlorotic woman a murmur having all the characters of a mitral regurgitant one."

I need not produce further evidence to show how strongly it is held that apical murmurs audible in the back always mean organic disease of the mitral valve. On the other hand, I am able to point to twenty-two cases, in twenty of which murmurs identical with those heard in undoubted examples of mitral disease disappeared under treatment in the course of two or three weeks. Nor am I alone in this observation. Dr. Kingston Fowler says, after reference to the works of Dr. Walshe and Dr. Hoyden: "Is every patient presenting the signs of mitral regurgitation, a systolic apex murmur conducted to the angle of the scapula and audible in the vertebral groove between the sixth and ninth dorsal vertebræ, to be considered the subject of organic disease of the mitral valve? According to Dr. Hoyden and Dr. Walshe this question must be answered in the affirmative. My own experience points to an exactly opposite conclusion. I have within the last three months seen at least fifteen cases of advanced chlorotic anæmia among my out-patients at the Middlesex and Brompton Hospitals, of whose cases I have careful notes, and in whom I have detected a systolic apex murmur, which has been distinctly audible not at the angle of



the left scapula only, but in many at the right also, and in most of which cases the bruits have already disappeared under appropriate treatment. I have long taught that the anæmic murmurs obey the same law as to conduction as those of organic origin, and particularly that the conduction of the systolic apex murmur to the angle of the scapula is no sign of disease of the mitral orifice."

Dr. Broadbent also says: "The occurrence of dilatation of the left ventricle and mitral regurgitation is very common as an effect of anæmia."

I do not attempt to reconcile these conflicting statements and experiences. I am content to accept the fact that an apex murmur audible at the angle of the scapula is not unfrequently to be observed in chlorosis, and also that the bruit disappears under treatment directed to the removal of the blood state, and so cannot well be due to structural changes in the mitral valve.

In two of the twenty-two cases the mitral regurgitant murmur has not yet disappeared, and as the cases have now been under observation for seven and nine months respectively, there is great probability that permanent changes in the heart have taken place. I will very briefly relate the chief points in these two cases.

*Case 1.* Rhoda H., aged 22 years, came under observation January 7, 1891. She presented all the characteristic symptoms of marked chlorosis, except that she was menstruating regularly, and had not constipation. She had not had any rheumatic manifestation nor chorea. The cardiac action was extremely irregular, but no bruit could be heard on this occasion. She was ordered a perchloride of iron mixture. On February 2nd she was improving in appearance and general symptoms. The heart's action was still irregular, and a systolic bruit was heard at the apex only. February 17th: Heart's action quite regular, systolic bruit heard at the apex and at angle of the left scapula. She has taken the iron mixture since January 7th. On March 3rd I made a note that I thought the bruit was organic, and ordered her a digitalis mixture and sulphate of iron pills. May 26th: Has taken digitalis and iron regularly since March 3rd (eleven weeks); cardiac action very irregular, systolic apex bruit heard occasionally. On July 10th she was reported very ill and unable to attend. Saw her ten days ago. Heart regular. Bruit still present.

I have very little doubt that this case ought to be regarded as one of chlorosis in which the bruit has become permanent, unless, as is quite possible, she is the subject of long-standing mitral disease, and had by accident, as it were, become chlorotic.

Stokes narrates a precisely similar case, in which mitral disease was found on post mortem examination, and says that the combination of organic and anæmic murmurs, especially in young females, is not unfrequent, and it is often difficult to say whether the organic or functional disease has had the initiative. "Under these circumstances we have generally with the symptoms of anæmia the physical sign of a mitral murmur unattended by evidence of hypertrophy of the heart."

*Case 2.* Ruth A. R., aged 15 years, came to the out-patient room on November 18th, 1890, with a chlorotic aspect and the usual symptoms. She had not menstruated. There was no constipation. She had not had any rheumatic manifestation nor chorea. A systolic bruit was heard at the base, apex, and back. She was ordered perchloride of iron in mixture. December 9th: Bruit still audible in all areas. January 13th, 1891: Bruit persists in all areas. I made a note on this date that the bruit sounded like an organic bruit. February 24th: Bruit very faint to-day; so much so that I thought it had disappeared after all. May 26th: Bruit very loud to-day in all areas and rough in character. She has been taking iron continuously since November 18th, 1890, and has improved in appearance and has practically no symptoms. (P.S.) July 17th: Bruit still audible in all areas.

Here, then, are two cases in which a bruit indistinguishable from that of mitral regurgitation due to organic valvular disease persists in spite of long-continued treatment directed to the removal of the anæmic state. The observation of them has called to my mind an important and exceedingly interesting paper by Dr. Goodhart on "Anæmia as a Cause of Heart Disease," in which he says that anæmia, by leading to dilatation of the left ventricle is a fertile source of valvular disease, and chiefly of mitral disease. Dr. Goodhart's cases were, I should observe, not cases of chlorosis, but of secondary anæmia; he nevertheless very properly applies his conclusions to chlorosis and all other primary anæmias. Sir Dyce Duckworth, also, writing in 1886, says: "Evidence is, however, accumulating to show that amongst the results of anæmia a measure of damage to the mitral and aortic valves occurs."

The chief point I have wished to make in this short paper is that bruits, indicating mitral regurgitation, occur in a considerable proportion of cases of chlorosis, and that in a small number of such cases the cardiac condition ends in permanent organic disease.—*The American Journal of the Medical Sciences*, October, 1891 p. 347.



## DISEASES OF THE NERVOUS SYSTEM.

6.—ON ACUTE PRIMARY CEREBRAL INFLAMMATION  
PRODUCING HEMIPLEGIA AND OTHER FORMS  
OF PARALYSIS.

By SEYMOUR J. SHARKEY, M.D., F.R.C.P., Physician to  
St. Thomas's Hospital.

H. J. H——, aged thirty-nine, warehouseman, was admitted into St. Thomas's Hospital under my care on August 19th, 1890, and died on September 13th, 1890. His family history was unimportant, and he had always enjoyed good health; he had never had syphilis. One of his fellow workmen said that he had latterly worked unusually hard, and that he had complained of some twitching in the right hand when writing, and of numbness on the inner side of the right cheek, so that he could not taste anything on that side. Suddenly, while at work, he was seized with a fit and brought to the hospital, where he had two more in the casualty room. On admission he was found to be in an almost completely unconscious condition; his attention could be roused to a slight extent, but he emitted no sound. He lay on his back with legs extended, turning his head occasionally from side to side, and slightly moving his left arm. His eyes were widely open, the right pupil a little larger than the left, neither acting to light. The corneal reflex was present. Sensation appeared to be absent, and loss of power was more complete on the right side than on the left. The pulse was 104, tense, regular, small. The respirations were 12 in the minute, two shallow respiratory movements occurring in quick succession about every ten seconds. The superficial reflexes were absent, the patellar normal and equal. The urine drawn off was of specific gravity 1020, clear, acid, and contained one-twelfth albumen. The chest was normal, except that a systolic murmur, soft, and conducted upwards on both sides of the sternum, was heard. Abdomen normal. The fundus of the eyes was natural. Temperature 95·4°. Three hours after admission he had another convulsion, which began with a loud cry, and involved at first both sides of the face, subsequently only the left, together with the right arm and leg. The breathing after the attack (which lasted three or four minutes) was regular and stertorous. Just after the seizure the knee-jerks were markedly exaggerated, and ankle-clonus was easily elicited on both sides.—August 20th: Had three more fits, with continued unconsciousness. Slight ankle-clonus on right, none on left. Pulse 100, regular, and fairly full. Temperature normal. Head and neck somewhat congested. Eyes slightly turned to left. Showed some signs of consciousness, but had

not spoken. Sensation and fair motor power present on the left side, and both quite absent on the right. Abdominal, cremasteric, and epigastric reflexes absent on right, brisk on left. Plantar and patellar reflexes present on both sides, but the latter more marked on right. Jaw fixed. Corneal reflex feeble on right; right cheek blown out during expiration. Urine: Sp. gr. 1029; no albumen or sugar.—23rd: Incessant twitching of the muscles of the face, forehead, eyebrows, tongue, and jaw (rather more marked on right than on left side), of the right platysma and upper lip, and of the angle of the mouth on the left side. They either ceased or got less frequent during sleep. Quite aphasic.—30th: Up to this date there was comparatively little change, and what there was was all in the direction of improvement. He became a little more intelligent, spoke a few words, and sensation began to return in the right side. The epigastric and abdominal reflexes on the right still remained in abeyance, while there was slight ankle-clonus and increase of the patellar reflex on this side. On this day he had another fit, lasting three-quarters of an hour, followed by a shorter one. The muscles of the right side of the face and neck were strongly convulsed, and the eyes were turned to the right. After this the patient was less intelligent than before. He remained almost unchanged until September 11th, when about 4 a.m. he had a convulsive fit, mainly affecting the left side. It lasted five minutes, and left him completely unconscious, with stertorous breathing and a pulse of 132. The superficial reflexes were absent on both sides after it. The patient remained unconscious up to the time of his death on the 13th, with rapid pulse and respiration, and with a rising temperature, which reached after death  $106.4^{\circ}$ . On the last day of life the urine became smoky, of specific gravity 1032, and contained about one-twelfth albumen.

The following is the account of the post mortem examination by Dr. Haddon:—No urate of soda in great toe joints. Brain: No undue vascularity: surface normal. Vessels at base not degenerated or obstructed. Left hemisphere distinctly larger than right; white matter slightly hyperæmic, yellow, and soft. The change from normal was very slight, and did not approach in any degree that which is seen in softening from vascular obstruction. The pons, venous sinuses, and heart were normal, with some atheroma of aorta. Lungs: Marked hypostatic pneumonia along posterior border of right upper and lower lobes; hypostatic congestion of left lung. Liver and spleen normal. Kidneys: Slight adhesion of capsules; numerous small concretions of uric acid in pelvis and calyces; the concretions resembled in form and colour mustard seeds. Structure of organs normal.



I looked upon the case during life as one in which a severe lesion of the left hemisphere had occurred, but I expressed my inability to say what the nature of the lesion was. There appeared to be nothing to guide one except the comparative frequency with which thrombosis, embolism, and hemorrhage occur in a man aged thirty-nine. I did not think there was any evidence of tumour. So little was found at the post mortem examination that it was looked upon as a negative one. I kept portions of the brain for microscopical examination, with the result that I found a severe diffuse inflammation of the left hemisphere. The small vessels were dilated, contained an excess of leucocytes, and were surrounded externally by many which had escaped from their interior. The case was one of diffuse cerebral inflammation, without evident cause, unless the uric acid found in the kidneys can be looked upon as an indication of its being due to lithæmia.

In *The Lancet* of June 6th, 1885, I wrote a paper with the title "On certain Cases of Disease of the Central Nervous System in which no Naked-eye Changes are found at the Post Mortem Examination." For some years I had been struck with the comparatively large number of cases in which death followed certain symptoms which appeared to be attributable to central nerve disease, and in which, nevertheless, the post mortem examination revealed nothing which could explain the symptoms and fatal issue. I took a characteristic case of the kind and examined the central nervous system microscopically from one end to the other. The case was that of a boy six years of age, who died in about ten days from motor paralysis. On admission he was totally unable to stand or walk, or even to remain sitting upright when placed in that position, although he could move his legs while lying down. He had considerable loss of power in his hands and arms, and although able to move them, he could only do so in a clumsy, fumbling manner, which was especially evident when he tried to feed himself. There was no loss of sensation. Pupils were equal, and acted well to light and accommodation. There were no tremors. The patellar and plantar reflexes were absent, the cremasteric normal. No ankle-clonus. The tongue was protruded straight, and was covered with a white fur. The evacuations were occasionally passed in bed. The mind was clear, but the boy was somewhat dull. The organs generally appeared to be healthy. He only lived five days after admission, and during that time he was restless, had frequent vomiting and difficulty of swallowing, and was finally unable to expectorate the mucus collecting in his throat. Nothing whatever abnormal was found at the necropsy. I hardened and cut sections of the following parts—(1) the lumbar; (2) the

dorsal ; (3) the cervical regions of the cord ; (4) the medulla oblongata ; (5) the corpus striatum, with the external and internal capsules ; and (6) the parietal convolutions. The only disease of importance was found in the central ganglia and capsules, and that disease was an acute inflammation. Here were found—(a) Distension of vessels and of the peri-vascular spaces. (b) Networks of small vessels filled with leucocytes, the white matter in the external and internal capsules being the part most strikingly altered. Where the external capsule lay upon the corpus striatum a deep border of leucocytes was visible. (c) All through the tissues composing the basal ganglia a large number of white corpuscles were observed aggregated in the spaces round the nerve cells and elsewhere. In other words, the microscopic examination revealed an acute inflammation of the central nervous system, affecting almost exclusively the basal ganglia. In commenting upon the case, I remarked : “Generalisations should not be made from single cases ; but nevertheless it is often useful to found hypotheses upon them ; for facts subsequently ascertained can be more easily brought to bear upon definitely formulated propositions. Looking, then, at those cases which from the clinical point of view appear to be diseases of the central nervous system, but which yield so-called ‘negative’ post mortem results, and seeing that, although varying to a certain extent, they present many points of general similarity, the hypotheses I would frame are the following : that wide-spread inflammatory processes may affect the central nervous system, and even prove rapidly fatal, without producing any characteristic naked-eyed changes ; that in such cases particular portions of the cerebro-spinal system may be more intensely affected than others, and that differences in the clinical phenomena depend upon such localisations ; that cases in which the brunt of the disease falls upon parts situated above the pons Varolii are not extremely rare, although they have not received much attention from clinical observers or from pathologists.” The case I now report is clearly one of the same class, though the inflammation occupied a wider area than it did in my first case.—*The Lancet*, October 31, 1891, p. 973.

## 7.—ON EPILEPTIC COMA.

By SAMUEL WILKS, M.D., F.R.S.

[The following excerpt is taken from an address on some of the more unusual phenomena of epilepsy.]

Having divided the epileptic attack into its several parts and shown how each one may predominate, if not be the only symptom, Dr. Wilks goes on to ask whether the sleep drowsiness or coma which usually follows the attack may be the only



symptoms of epilepsy, and in answer to his own question goes on to say : I have reason to think it may, and to this part of my subject I wish for the opinion of the society, either for or against, as I think nothing much has been written upon it. There may be those present who would object to coma forming the essential or only part of epilepsy, seeing it would not accord with their definition or theory of the disease ; but I am at present putting aside all considerations of this kind, making my paper purely clinical.

A young lady, aged 19, gradually became insensible, and fell into a deep sleep ; when awoke went to sleep again. After interval of some weeks she had another attack, when she fell into a state of almost complete insensibility, and slept for hours. She has had similar attacks since. Nothing was observed in the shape of convulsion or twitching of the muscles before the coma came on ; but on closely questioning her as to her feelings before these attacks, she said she sometimes experienced a strange feeling in her right arm, leg, and face.

A gentleman of middle age was under my care for symptoms of a syphilitic nature, having nodes on the head with much pain. He one day, whilst sitting at dinner with his niece, who took charge of him, complained of feeling unwell and sleepy, and said he should go to bed. He walked upstairs and was assisted into bed ; he soon fell into a deep sleep from which he could not be roused, and a medical man was sent for. He was found to be in a profound coma, so that nothing could rouse him. I then saw him and we all thought he was dying, but after about ten hours he became wakeful and shortly came to. On the following day he was again downstairs as usual. It was clear that nothing of an apoplectic seizure could have occurred. About two or three weeks afterwards he was seized with a true epileptic fit, followed by profound coma, which lasted several hours, as in the previous attack. He again quite recovered, but subsequently had another. It occurred in the evening, when he began to feel heavy and went up to bed, and soon sank into a comatose state. He lay thus for several hours as before and then recovered. His niece and his nurse, who were quite prepared for a fit, on the closest questioning, declared he had no warning or premonitory symptom of any kind before the coma came on. The niece was always watching him, and is sure that the slightest twitching of the face would have been noticed by her. It seemed to her, and also to me, that he would fall exactly into the same coma as he did when he had the regular fit.

Now, if coma be the only symptom of epilepsy, we may ask whether a partial insensibility may be of the same nature. I have already alluded to the mental aberrations of epileptics—how they will walk about in a dazed condition and be guilty of

strange acts, and how such mental states may sometimes be the only indication of the paroxysm. Now, I ask, may such a condition occur and have epilepsy for its nature and pathology without any other symptoms ever having existed? For example, a boy of fourteen was brought to me, who was said to be intelligent and had obtained prizes at his school. In two years he had had several attacks of the following nature: His mother would observe that when he came home he would seem very dull, sit in a chair, and not speak except addressed. He would be led up to bed or led anywhere like an automaton or a person hypnotised. He had no fit and no loss of consciousness; had several attacks of this kind. The last having continued three days, she brought him to me. He sat down in my study and said nothing, except in short words when addressed. He walked into other rooms when I told him, and then came back, doing anything he was bid. He had no other objective symptoms whatever. I saw him some months afterwards, and heard that the attacks were less frequent and shorter. He was a bright, intelligent boy and presented a complete contrast to the patient I had before seen.

Sometimes an epileptic fit seems, as it were, drawn out; then, of course, there is no sudden falling, as, for example, a young woman, aged 22, had curious attacks, which her medical man supposed were of an epileptic nature for the last six years. Whilst in the streets or elsewhere, she would feel a numbness in the leg and arm on one side; this continued for two or three hours followed by headache. Sometimes the sight would fail on one side, but she never lost herself. If the attack came on in the day she was unfit to go on with her work, for as a rule, she wanted to sleep for hours afterwards. If one could imagine a fit which is usually all over in so many minutes protracted for several hours, one gets a notion of this case. Another case somewhat similar was that of a young man engaged as a clerk, and who for the last six years has had strange attacks. He feels a numbness creeping over his leg or arm of one side, and sometimes vision fails on one side. This feeling may last two or three hours, and is then followed by headache, which also lasts some time, and then sleep comes on. If these attacks occur during the day, he is obliged to desist from work, as he feels headachy, sleepy, and generally queer. He never loses his consciousness. What he described was an epileptic attack long drawn out, an attack in which all the symptoms were spread out over a length of time—the greater part of a day. If they, had been compressed into a short period they would have constituted an ordinary epileptic fit. In his case there obviously could not have been any loss of consciousness.—*British Medical Journal*, January 2, 1892, p. 4.



## 8.—A CASE OF SYRINGOMYELUS.

By J. HUGHLINGS JACKSON, M.D., F.R.S., and

JAMES GALLOWAY, M.B.

The patient, Mary H——, aged forty-seven, is a stout, healthy-looking woman. Twenty-two years ago, when pregnant, she had an attack which she calls sunstroke, while in the garden on a hot summer afternoon. On this occasion she remained unconscious for two hours and was under medical treatment. After this attack she observed that she was gradually losing sensation in the right arm and hand, and on the right side of the body. She is not quite certain that there was not some loss of sensation in this region even before the attack mentioned. The impairment of sensation increased, and she soon observed that there was loss of power in the forearm and hand, especially affecting the third, fourth, and fifth digits. Having to grasp objects by the right thumb and forefinger she felt awkward at work, and the arm became easily fatigued. Fifteen years ago she received a severe scald on the right forearm, and her attention was especially attracted to the loss of sensation about this time. Since that time she has frequently burnt and otherwise injured her right fingers and arm, being unable to feel that water was too hot for washing in. On a recent occasion she pinned her shawl into the skin of her right breast, and was unaware of the injury inflicted till some time afterwards. Twelve years ago she sustained a laceration of the skin over the right elbow. She thinks she poisoned the wound by removing a piece of skin with a pair of rusty scissors. There resulted considerable inflammation round the elbow, and an abscess, forming in the right axilla, was opened and treated in the ordinary way. For two years and a half at least she has noticed that the third, fourth, and fifth fingers have been contracted and stiff. Eight months ago, while wringing clothes in the awkward manner referred to—grasping by the right forefinger and thumb, resting the elbow on the edge of the tub and using the left hand—she suddenly noticed a cracking sound in the right elbow, and had to stop work on account of pain in moving the joint. The same night the right elbow swelled greatly, and remained large for many months. She says the elbow became “dropsical,” and she has been unable to use the joint effectively since that day.

In September, 1891, she was admitted to the London Hospital under the care of Mr. Waren Tay. The condition of the right elbow exactly resembled that observed in Charcot's joint disease, but no signs of tabes dorsalis were discovered. The

arm was placed on a splint, the fluid became absorbed, and the elbow diminished in size. The joint, in spite of the great changes observed, was uncomfortable rather than painful. On leaving the surgical wards she was transferred to the care of Dr. Hughlings Jackson. The following conditions may now be observed: The right elbow and forearm are considerably larger than the left. The right elbow joint is quite disorganised, and there is some, though not excessive, osteophytic growth in the neighbourhood of the joint. The forearm can be moved laterally at the joint for about a quarter of an inch with much grating. Movements at the elbow cause a little discomfort, but little or no pain; complete extension is impossible on account of the altered relations of the joint surfaces; the other movements are abnormally free, and are attended with grating in the joint. The right wrist has also been somewhat swollen, and slight grating can be obtained on movement. The third, fourth, and fifth digits of the right hand are permanently flexed and contracted, the second and first digits show similar changes, but not to the same extent. Wasting of the thenar, hypothenar, and interossei muscles is well marked.

The following results of the reactions of the affected muscles to electricity are communicated by Dr. James Taylor:—"All the muscles of the affected side, including the facial muscles, react to the interrupted current, but the currents required to produce the reaction is greater than that required for the muscles of the (left) unaffected side. This difference in reaction is most marked in the small muscles of the hand. To the continuous current, similarly, a greater current is required to produce a reaction, but there is no qualitative change. K.C.C. is always greater than A.C.C." Over an area, including the front and back of the right upper extremity, the right side of the scalp, face, and neck, and the right side of the trunk to about the level of the tenth dorsal vertebra there exists marked alteration in sensation. The patient cannot distinguish between painful sensation and contact. Thus she cannot tell the difference when the skin is touched with the finger or the sharp points of a pair of compasses. The locality is readily distinguished, but both tests appear as if "a weight" had been placed on the part. Over this region, also, the patient cannot distinguish between heat and cold. She feels and localises the point of contact when hot and cold objects are applied, but cannot tell which is the hot or which the cold object. The muscular sense in the arm is retained. At the level of the tenth dorsal vertebra on the right side there is a region about one inch in breadth where the markedly altered sensations shade rapidly into normal sensation. In the middle line the limit of altered sensation is well marked. The sensation of the mucous



membrane of the right side of the tongue, mouth, palate, and fauces is affected in a fashion similar to that of the body. A touch can be readily localised, but a painful sensation is felt only as a touch. The sense of smell seems to be less acute on using the right than when using the left nostril, and there seems to be slight diminution of taste on the right side of the tongue, but the results obtained on examining these special senses are not very trustworthy. The senses of sight and hearing are normal. There is no alteration in the movement of the eye, and the fundus oculi is normal. The lower extremities are normal in all respects, and beyond a slight systolic murmur at the base of the heart no other morbid phenomena are noticeable.

The lesion characteristic of syringomyelus appears to be of congenital origin, and consists essentially of a mass of neuroglia situated in the deeper parts of the posterior fissure of the spinal cord, behind the central canal. The quantity of the abnormal tissue varies greatly in amount in different cases, and at different levels in the same case. This variation is due probably to two causes—to the amount which persists originally after development ceases, and to the increase which this original quantity subsequently undergoes. The cavity from which the disease is named is probably in the first instance nothing more than the early posterior extension of the central canal of the cord, which has failed to become filled up. At the same time, the existence of the embryonic neuroglia in this position probably interferes with the proper development of the posterior columns of the cord. The case now recorded emphasises the fact that the condition mentioned may exist for long in the cord, simply as a deformity, without causing evident symptoms. As has been noted, the patient refers to a period at least twenty-two years ago as the date of commencement of her present symptoms. During the twenty-five years of her life preceding that period she had suffered from no sign of the disease. In a case recently described by one of us (Dr. J. Galloway), typical lesions of the disease were found in a patient aged forty-three, who had been in robust health till two years before death, which occurred from the exhaustion following acute mania, and only a few weeks before death were any symptoms noted pointing to a lesion of the spinal cord.

It is important to observe that the early signs, before marked degenerative changes in the cord supervene, consist of the loss of sensation to pain and of the power of distinguishing between heat and cold, while the ordinary contact sensation remains practically intact. This is of interest, as so far as is known at present the conducting tracts for

painful sensations, at all events, exist in the lateral columns, while the degenerative changes which result from the increased growth or necrosis of the neuroglia mass are shown most prominently in the posterior columns and in the grey substance of the cord. The alteration in sensation in this case involves the head and neck, the area of distribution of the cutaneous branches of the upper cervical nerves, and of the fifth cranial nerve. This phenomenon is a somewhat rare symptom of the disease, but it is well known that the lesion may continue upwards through the cervical cord, under and involving the floor of the fourth ventricle, and even into the third ventricle, associated with dilatation of the lateral ventricles of the brain. A case very similar to the present is recorded by Dr. Bruhl in his recent work on this subject. In the case referred to, the diagrams of altered sensation are almost identical with those appended to the case now described. The case of our patient affords also an example of an acute arthritic degeneration occurring during the course of syringomyelus; the condition of the joint is now exactly similar to the well-known arthropathy so often met with in tabes dorsalis. Although the patient had an axillary abscess it was probably of infective origin, and had nothing in common with the painless collections of pus especially occurring on the fingers described by Morvan, and now considered to be associated with certain forms of syringomyelus. It is interesting to note also in this connection that in spite of the fact that the patient has frequently received injury on the right arm, no abscess or "whitlow" has occurred except in the single instance above referred to. The question of the identity of certain forms of syringomyelus and anæsthetic leprosy has recently received attention in France. In this particular case the absence of trophic disturbances characteristic of the form of syringomyelus described by Morvan, as well as the fact of the anæsthesia existing in such a well-marked area without any tendency to a macular arrangement, preclude the suggestion of the diagnosis of leprosy in this case, and emphasise the fact that syringomyelus is a much wider disease than the forms of it distinguished by trophic changes, and in this wider category we believe the case under consideration has a place. It may be of interest to mention that a patient presenting many symptoms of syringomyelus was shown at a recent meeting of the Neurological Society by Dr. Ferrier. Of this important case we learn that Dr. Ferrier's diagnosis has been verified by necropsy since he exhibited the patient. A very complete bibliography of the cases reported both in English and foreign literature will be found in the works already quoted by Bruhl and Verchère.—*The Lancet*, February 20, 1892, p. 408.



## 9.—A CASE OF CEREBRAL TUMOUR, ILLUSTRATING THE DIFFICULTIES OF CEREBRAL LOCALISATION.

By E. H. BENNETT, M.D., F.R.C.S.I., Professor of Surgery in the University of Dublin.

The patient came under my observation in September, 1890 ; he had been ailing for some time before this date, and had been advised in the early part of July to arrange his affairs. I can give no details of the case before I saw him myself.

He was a tall, gaunt man, aged forty-five. He was helped into my study by his brother, who had a good deal of trouble in getting him from the train to a cab, and from the cab into my house. With very little support—the grasp of a finger—he could stand alone ; but his efforts to walk were ill co-ordinated, and he had to be held from behind under the arms in order to walk. He had a fatuous face, with exophthalmos, and an open mouth, with a hanging lower lip. His speech was slow and slightly inarticulate, but correct. He had loss of memory, but was free from any delirium or fever, and was most biddable. He had no definite paralysis. After admission to hospital his symptoms became more marked. At first he could stand with the support of a finger. After a little time he had to be held beneath the arms or he would fall, always to the right ; put sitting in a chair he would fall out of it before long to the right ; he became more feeble mentally ; his memory failed more completely ; although seeing me every day he failed to recollect my name ; he wandered about his farming and his poaching.

On October 16th Mr. Story examined his eyes for me, and reported that there was no optic neuritis ; that the pupils acted normally ; that the palpebral fissure was abnormally wide ; and that winking was infrequent and incomplete. The upper lids did not follow the downward motions of the globes with normal accuracy ; also distinct anæsthesia—that is, partial loss of sensation and reflex action of the conjunctiva—existed.

At this time, and from the very first, the man had difficulty of swallowing, caused, as far as one could judge, by defect in the power to start the act of pharyngeal deglutition. He would keep food in his mouth for a great length of time, and it required an effort, during which he often choked, before he could get the food past the fauces. This and the dulness of the ocular reflex varied greatly ; some days he would be nearly normal, and then both failures returned, rather increased after each remission. His tendon reflexes were normal at first ; as the case went on the investigation of their condition was prevented by his downward progress. He got phlebitis of the

superficial veins of the left leg, with a rise of temperature on October 23rd to  $101.5^{\circ}$ . The limb became œdematous, and he no longer could be placed standing, or even sitting on the edge of the bed.

On November 6th his faculties had greatly failed, yet he recognised his brother ; but next day he recollected nothing of his visit.

On November 13th the veins of the right leg became obstructed, and the limb œdematous.

His urine was throughout normal, and his bowels constipated. Towards the end of his life he passed under him both urine and fæces. He had some five or six attacks of convulsion, in which his left lower limb twitched, his eyes turned up, and his breathing was laboured.

He had pain in his head, which he referred to the occipital region, but he made no great complaint of it, and never could indicate any definite site for it.

His difficulty of swallowing increased, and I thought that some day this would bring about his death.

On the 1st of December his temperature, which had fallen after the rises which attended the attacks of phlebitis, rose to  $101^{\circ}$  ; on December 2nd it reached  $102^{\circ}$  ; on December 3rd,  $104^{\circ}$  ; and Cheyne-Stokes' respiration coming on, he so died. He never had any impairment of power in his arms ; he could move his legs about in bed until their condition of œdema rendered the motions difficult.

I failed to localise the seat of the disease of his brain. Nor could any of those who saw and examined the man suggest a site or form of disease ; only one could say that progressive organic disease was present.

I could obtain a post mortem examination of the cranium only, and of his scrotum, which held a simple vaginal hydrocele.

The examination of the cranium disclosed the fact that the cause of the disease was a tumour of the brain substance, which involved the convoluted surface of the right cerebral hemisphere. The tumour was roughly hemispherical in shape, the base opposed to the dura mater and bone, its size about half that of a Tangerine orange ; the dura mater was adherent to the surface, and all the parts of the brain showed marked signs of compression, caused by the presence of the tumour. The tumour lay directly over the fissure of Sylvius, and exhibits on the brain, stripped of its membranes, a defined and nearly circular area 75 mm. in its horizontal diameter, 70 mm. in its vertical diameter.

It obliterated the lower two-thirds of the fissure of Rolando, and involved the lower half of the ascending parietal convolution, with the exception of 10 mm. of its lower end. The whole of



the ascending frontal convolution, with the exception of 25 mm. above, and 10 mm. below, was lost in the tumour.

The superior frontal convolution was not involved, but it was compressed in its hinder part. The superior frontal sulcus formed a natural boundary of the tumour.

The middle frontal convolution in its posterior half was completely obliterated, and the præcentralis inferior sulcus was gone.

Of the other parts of the inferior frontal convolution the "cap" of Broca, or the pars triangularis (*i.e.*, the portion between the ascending and anterior horizontal limbs of the fissure of Sylvius), was entire; the orbital part was entire; the pars basilaris, between the ascending limb of the Sylvian fissure and the præcentralis, was slightly involved in its upper and back part, and was compressed throughout.

In this detail of the parts involved, those familiar with the admitted sites of the centres of volition governing the left upper limb will see that these, and those of many other parts of the left side of the body, are destroyed; but never during life was there any paralysis of the limbs. How are such facts to be reconciled with our present views of cerebral localisation?

I have not as yet made the histological examination of the tumour, as the specimen has been prepared with a view to the demonstration of the more important question of its size and relations to the motor area of the cerebral hemisphere. The tumour is probably a sarcoma; it has undoubtedly arisen in the structure of the pia mater and has compressed the convoluted surface.

N.B.—The microscopic examination has established the diagnosis of the tumour as a sarcoma since its presentation to the Pathological Section.—*The Dublin Journal of Medical Science*, November, 1891, p. 337.

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## 10.—A METHOD OF REMOVING BRANCHES OF THE FIFTH NERVE IN CASES OF TRIGEMINAL NEURALGIA.

By VICTOR HORSLEY, F.R.C.S., F.R.S., Surgeon to the National Hospital for the Paralysed and Epileptic.

In devising this operation the objects which I had in view, besides that alluded to, were:—(1) To secure separation of the lingual and inferior dental nerves from their continuation with the main trunk just outside the foramen ovale. (2) To effect this without notable scar and without injury to such important structures as the facial nerve, parotid gland and the articulation

of the lower jaw. (3) To see clearly every step in the operation and to have the nerve in view, not only where it is first exposed, but where it is divided. (4) To obtain immediate union of the wound.

All previous operations for trephining the jaw fall under the disadvantage of not complying with all the above operative considerations or of not removing the nerve before its entrance into the bony canal—in my opinion a *sine quâ non* for a successful result. The operation known as Paravicini's had the further disadvantage that the wound of necessity became septic.

The operation which I advise and have performed since 1886 is carried out as follows:—The skin having been first shaved and washed with soap and water, is covered for twenty-four hours with a dressing of lint soaked in 1 in 30 carbolic solution. just before the operation it is finally sponged with warm lotion and the external auditory meatus, after being thoroughly cleaned out, is rendered more antiseptic by the insufflation of powdered boracic acid, or is packed with antiseptic wool or soft gauze. The patient is anæsthetised, preferably with chloroform, so as to diminish facial congestion, although ether has frequently been given for me in this operation without much inconvenience. An incision is then made, beginning above the upper border of the root of the zygoma and carried through the skin and superficial layer of fat only, straight down the front of the tragus and following the contour of the jaw behind the angle forward just below the lower border of the body as far as the facial artery. The triangular flap thus marked out is then raised, the knife cutting the layer of fat and superficial fascia which lies immediately over the deep masseteric fascia. In this latter ramify the branches of the facial nerve. The flap is to be drawn forwards and upwards with suitable traction until the anterior border of the masseter is reached, and the edge of the parotid and the lower border of Stenson's duct are clearly defined. The degree to which the parotid gland covers the masseter muscle varies, of course, in different individuals, but this is of no consequence. What does matter is that sometimes collecting tubules of the lower lobules run up towards Stenson's duct just within the anterior border of the gland, covered only by a thin layer of the parotid fascia. Unless care be taken in defining the edge of the parotid or the fascia left uninjured in the next step of the operation, one or other of those tubules may be divided or torn, and subsequent annoyance may be caused for some days by a flow of saliva through the track of the drainage tube.

The next step is to divide the fascia, muscle, etc., between Stenson's duct and the highest branch of the facial nerve. The nerve branch and duct being obvious, the masseteric fascia is



split horizontally between them over the whole breadth of the muscle. In doing this the branches of the transverse facial artery will probably be wounded ; if they are tied at once they will give no further trouble. The fascia is then seized with dissecting forceps, and undermined all round with the back of a knife or some blunt instrument. It has been recognised for some time that if a nerve in its continuity be pulled by a small blunt hook, the point of traction being so narrow many nerve fibres may be seriously damaged, giving rise to subsequent paralysis. It seems to me that this could be avoided by employing retractors which should have a convex outline towards the structures they were separating, so that the nerve they are drawing aside should slip round them as on a pulley. A similar retractor was suggested by Mr. Morris for pushing aside fat, etc., in operations on the kidney. The concave side being nickelised acts as a reflector, carrying the light to the bottom of the wound. With such retractors, and with the aid of a blunt instrument, the hole in the masseteric fascia can be steadily widened until it is about three centimetres in diameter. The parotid gland should now be retracted towards the ear, so that the finger can freely detect the posterior border of the jaw. The masseter muscle is then to be divided, preferably with scissors, on the jaw for the posterior two-thirds of its extent. The rapid oozing from the branches of the masseteric artery can be stopped at once by the application of a small sponge with some very hot lotion, though the arrest of the bleeding is especially provided for by the pressure of the retractors. The periosteum of the jaw is then peeled off, together with the superjacent muscle, until the finger and the electric light (which is absolutely essential for the success of the operation and should be worn on the forehead) have made perfectly evident the sigmoid notch, the posterior border of the coronoid process and the neck of the jaw.

The small wound in the muscle should then be plugged with a piece of hot dry sponge for a moment, while preparations are made for dividing the bone. Now, this division consists practically in extending the sigmoid notch down as low as the upper orifice of the dental foramen. The dental foramen is situated about opposite to the point where the masseteric ridge—which is really, of course, a continuation of the outer border of the neck of the jaw—reaches the middle of the vertical ramus. Although arbitrary measurements are dangerously untrustworthy, it may, perhaps, be better to mention that this point in the adult is usually from twelve to fifteen millimetres (measured in the line of the ramus) from the bottom of the sigmoid notch. To prevent possible fracture of the jaw and to aid subsequent division of the same with bone forceps

I think it best to cut out the U-shape required by first marking with the drill the presumptive position of the dental foramen, then carrying up on each side at the proper distance a row of holes, made with a drill, completely but only just penetrating the bone. These holes are best drilled with the central pin of Farabœuf's trephine, and then a small centimetre disc of the jaw should be taken out opposite the foramen. If this be done just at the opening of the foramen the periosteum on the inner side of the jaw appears, and on its division the inferior dental artery comes into view, while lying behind and posterior to it is the inferior dental nerve. If the nerve is not seen at once it is probably just under the posterior border of the trephine opening, and gentle search with the seeker will reveal it. A reliable silk ligature may with advantage be looped round it at this stage. The rest of the bone marked out by the drill holes should next be removed *lege artis*. Curved bone forceps of patterns made for me by Mr. Hawksley, of Oxford Street, London, I find useful for this purpose.

The internal maxillary artery giving off the inferior dental branch is now seen, and if it is large and the walls degenerated so that it will not stand much traction it had better be divided between two fine ligatures, and the ends pushed out of the way. A quantity of loose yellow fat is now seen filling the bottom of the wound, and if it interferes with the next step some large lobules of it may be quickly extracted with the dissecting forceps. The inferior dental nerve, secured by the ligature previously passed round it, should now be divided at its lowest part and raised, while the fat, etc., is pushed away from around it with a conveniently stiff and narrow retractor. In doing this it is traced upwards to the point where it is coming from beneath the external pterygoid muscle. This latter is also to be levered upwards with the retractors, and by this means the nerve can be followed out to within about a centimetre of the foramen ovale. It should then be cut as high as possible and the piece removed. During these manipulations the lingual nerve may have appeared in sight, but as a matter of fact it lies half an inch deeper than the inferior dental, in the line vertical to the ramus, at a point just above the dental foramen, consequently search must be made for fully this depth if it should not have been found before. A large length of it is then removed in the same way as from the inferior dental. The wound is then sponged out with warm sublimate solution, all bleeding points, including the smallest, ligatured with fine catgut, the whole thoroughly dried and the smallest drainage tube laid from the bottom of the hole to just above the lower angle of the jaw and the skin edges very carefully approximated with horsehair stitches at intervals of a centimetre. A light



dressing of soft gauze and alembroth wool is then fixed on with soft muslin bandages. The patient usually is fed with spoon diet and custard pudding, etc., for five or six days, and is then given pounded chicken and fish, and later mincemeat ; provided the wound runs its proper course it is very remarkable to see how extremely little disturbance is caused to the eating.

A feature common to all neuralgic cases and of practical importance is the furred condition of the mouth owing to the impracticability of cleansing it during the period of pain. Immediately after the operation, as it gives immediate and complete relief, this can be at once carried out by judiciously wiping out the mouth with a slender stick around one end of which some cotton wool has been twisted and wetted with warm boracic lotion. The drainage tube should be removed in twenty-four hours and an occlusive dressing applied, which need not be taken off, unless uncomfortable, until the stitches are removed, seven or nine days after the operation. In one or two cases where the patients have been nervous and not given the jaw free play, which can be allowed after the first fortnight, they may, if this is not seen to, experience some stiffness, and in one case, when I only saw the patient three times, I had to give a little laughing gas, six weeks after the operation, and gently open the jaws to their full extent with a gag, which of course was easily done. After everything is perfectly healed, partly from a little accumulation of exudation in the wound in the tissues of the cheek, the cheek of the operated side appears fuller than the other, but this is no disadvantage, as was shown long ago by Mr. Adams, such exudation (if not inflammatory, that is, suppurative) doing good service in preventing any falling in from loss of substance, etc.

Believing strongly in the common origin of this evil in cold, I think it is a wise precaution to advise the patient to wear a slight protection over the seat of operation, in the shape of a silk covered guard if a male, and padded bonnet strings if a female. As these patients are usually reduced before operation to great straits by inability to feed themselves, loss of sleep, and the depression produced by the dreadful pain, they should always, if possible, be sent away afterwards to a warm seaside place, sheltered from the north and east, such as Bournemouth, etc.

In three cases where I have observed recurrence of the neuralgia after removal of a considerable portion of the inferior dental nerve through the enlarged sigmoid notch (as described at page 163), I have found that the Pancoast-Salzer operation with slight modification, afforded a very useful means of obliterating both the second and third divisions of the fifth nerve, not merely at the base, but actually within the skull.

itself. In each case I have made a convex flap, the incision being carried upwards from the root of the pinna across the middle of the temporal muscle, and then joining the ridge and following that down behind the external angular process and margin of the orbit to terminate just below the middle of the malar bone. This incision is carried down to the bone throughout, except at the fore part of the temporal fossa. The flap is then turned downwards, including skin and superficial fascia and fat only as low as the centre of the zygoma. The deep fascia covering the temporal muscle is then best divided by an incision running parallel to the margin of the orbit and upper border of the zygoma, and at about one centimetre from these. The upper part of it is then turned up and the temporal muscle exposed. The next step is to divide the malar bone and the root of the zygoma so as to turn that process downwards with the masseter attached. This is best done by sawing vertically through the malar bone in a line with the posterior margin of the orbit with an Adams's saw, which can be pushed underneath the skin and periosteum if the latter be separated a little. The posterior extremity of the zygoma should also be sawn through immediately in front of the capsule of the joint. The complete division of the bone is then best effected in each case with sharp forceps. The zygoma being now forced downwards, carrying with it Stenson's duct and the branches of the facial nerve uninjured, the coronoid process of the jaw appears with the temporal muscle attached. The upper portion of the coronoid process should be cut off with strong forceps, and may be conveniently removed, together with the lower portion of the temporal muscle, since this latter will degenerate after the removal of the branches of the inferior division. The oozing in this operation is usually very free, but is easily controlled by irrigation with very hot aseptic solutions and by firm sponge pressure.

The external pterygoid now exposed is detached from the sphenoid with an elevator and pushed down until the foramen ovale is completely laid bare, with the branch issuing from it. In two cases I have proceeded with a suitable long handled trephine to remove the bottom of the middle fossa of the skull between the foramen ovale and the foramen rotundum, and have severed the branches of the fifth nerve within the skull and removed them freely outside. In a third case I did not open the skull, but contented myself with removing the nerve from the foramen, which was found to be remarkably enlarged. After all bleeding has been stopped and the wound has been thoroughly disinfected, a horizontal drain is placed at the bottom and brought out close to the pinna, and the rest of the wound carefully united with horsehair sutures and cyanide



dressings applied. In two cases the wounds have healed by first intention, but in the first case some necrosis occurred, which also happened to Pancoast and others. I was at first inclined to blame the very free manipulation which is necessary for this effect, but I am now inclined to believe that it was really due to the failure of the aseptic precautions, although in these cases they were very extensive. The operation is certainly a very useful one, and as it is not followed by any notable shock it does not appear to endanger life, and I recommend it to be tried as the next measure after the simple procedure of enlarging the sigmoid notch has been carried out.—*British Medical Journal*, December 5, 1891, p. 1191.

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## 11.—ON THE RESULTS OF REMOVAL OF THE BRANCHES OF THE FIFTH NERVE FOR NEURALGIA.

By VICTOR HORSLEY, F.R.C.S., F.R.S., Surgeon to the National Hospital for the Paralysed and Epileptic.

Mr. Horsley's table contains 19 cases in all, 11 males and 8 females. The average duration of the disease was about  $7\frac{1}{2}$  years, the maximum being 27 years and the minimum 1 year. Sixteen of the patients were over 50 years of age, the oldest was 69 and the youngest 27. In 8 cases exposure to cold is noted as a cause. In Case I. four separate operations were performed, with, in the end, a complete cure so far, viz.:—In March, 1886, removal of second division of fifth nerve through antrum; in April, 1886, removal of posterior palatine nerve; in December, 1887, removal of inferior dental and lingual, and in November, 1888, division of second and third divisions inside the cranium. In four other cases three separate operations were performed, in one case two operations, and in the rest one operation. In all the single operations the result is noted as "complete cure" or "complete relief so far." The operation, in fact, seems to have been a brilliant success in all but two cases, one of which died from shock after avulsion of the fifth nerve from the bulb, and in the other dementia supervened after three operations had been performed, the last being removal of second and third divisions inside the cranium. In all but one of the successful cases the operative procedure did not involve the cranial cavity. In the exception the second and third divisions were divided inside the cranium. In the majority of cases the second and third divisions, one or both or branches of them, were the nerves chiefly involved. In two cases the whole of one side of the face was affected.

Reviewing his results, Mr. Horsley says:—

It may now be asked, Do the results of the operation in those cases of inveterate facial neuralgia justify the procedure? This question presupposes a previous one, namely, what is the condition for which the operation is undertaken? in other words, how is the operation supposed to act? Bell long ago suggested that section of the nerve in these cases produced an alterative and tonic effect on the nervous system. Erb agrees with Bell in thinking that the “strong peripheral stimulus of the operation is the cause of the disappearance of the neuralgia.” Tripier regards facial neuralgia as probably due to some central change, and that a temporary inhibition is caused by the operation. Some cases, he thinks, may be peripheral, and may disappear if the irritant be removed. Wagner also believed that the mischief is central. Carnochan attaches great importance to Meckel’s ganglion in the production of neuralgia, and an essential in his operation was the removal of this. And even with this idea as to the origin of the pain and the consequently less radical operations undertaken for its relief, the success has been so marked as to convince many surgeons of the usefulness of operative procedures. But I hold very strongly the opinion that epileptiform neuralgia is a purely peripheral malady, affecting principally the small subcutaneous branches of the nerve, or possibly the nerve endings, as well as the trunks of the fifth nerve, as they run in the bony canals of the facial bones, and that complete removal of the pain in any given division of the nerve may be obtained by ablation of the nerve from the base of the skull, unless the stump of the nerve become the seat of neuritis.

All other measures, for example, stretching, simple division, destruction of the nerve in a bony canal by the drill or trephining, may, and undoubtedly do, give relief for a varying period, but the disease is extremely likely to recur in the stump or trunk as soon as the paralysing effects of the operation have passed off. I do not believe there is such a thing as reflection of pain along other branches, and certainly no proof of its existence is to hand, although it is freely spoken of as occurring. If pain is felt in two branches, for example, infraorbital and inferior dental, that means, I believe, disease of both those nerves. It is true that after operation on the nerve most affected, drugs such as gelsemium, &c., may so reduce the irritation in the other nerve as to render life tolerable and efficient, but in the end the remaining nerve, so far as I have seen, usually has to be extracted before permanent relief is obtained.

In this opinion I am supported by several authorities, and the evidence which they offer I shall discuss in a subsequent



paper in *The Practitioner* on the pathology of this condition, in which I also hope to advance fresh evidence from cases of my own. Holding, then, as I do, this opinion, I believe that operative procedure in those cases is an imperative duty, when all medical measures of relief have failed. It is true that in many cases operation is not followed by that permanent relief which is aimed at, and this no doubt arises from several causes. One of these I believe to be the excision of too short a piece, permitting reunion of the cut ends. It is stated by Hüter that experiments show that not less than five inches must be removed to prevent reunion with certainty. Although I am inclined to think that this is an excessive length, there seems to be little doubt that a considerable gap between the divided ends can be bridged over, but I am convinced that in many of the cases in which a return of pain after neurectomy is ascribed to reunion, the result is in reality due to the occurrence of neuritis in the stump of the nerve, chiefly because the wound was not treated antiseptically. Another reason for a want of permanent relief after neurectomy is, I believe, because the nerve is not fully freed in the bony canal. If the neuritis does not frequently start in such a place, it is, I am sure, often very intense there, and the free removal of nerve in the canal, or the removal of bone so as to widen the aperture and prevent pressure, is essential. Then, too, if the neuralgia has persisted long, it is necessary to go far back, and a minor operation on the anterior portion of a nerve trunk may be followed by a recurrence of the pain within a short time. I believe it is necessary to divide the nerve as near its origin as possible, so as to sever it where it is still healthy.

It is exceedingly difficult to get statistics as to the duration of relief after operations for this affection. Many cases are reported as cured after a few weeks or months, but there is nothing to show that the relief lasted even for a year. In many cases it is known to recur within that time, but I think that if the principles I have laid down are followed, recurrence will occur far less often than it has hitherto.

The conclusions I would draw are, that as soon as drugs and electricity have definitely proved unequal to the task of controlling the pain, the branch of nerve affected should be excised. The rapidity with which the wound heals and the absence of a noticeable scar deprive the procedure of obvious drawbacks, while the genuine nature of the relief it affords, in contrast to other methods, is shown by the fact that patients once operated upon will hardly wait to hear of other treatment if some other branch become affected.—*British Medical Journal*, December 12, 1891, p. 1251.

## 12.—A METHOD FOR REMOVING THE GASSERIAN GANGLION.

By WILLIAM ROSE, F.R.C.S., Surgeon to King's College Hospital.

[The following is taken from an abstract of Mr. Rose's third Lettsomian Lecture on the Surgical Treatment of Trigeminal Neuralgia.]

The patient is to be carefully prepared by attention to the bowels and general health. The side of the face must be carefully purified both before and at the time of the operation by a 1 to 20 solution of carbolic acid; the ear must be cleansed and plugged with gauze, and the conjunctival sac rendered aseptic by washing out with a 1 to 2,000 solution of corrosive sublimate. The lids are then stitched together. The operation was described in stages as follows:—

*Stage 1. Incision through Skin and Reflection of Flap.*—The skin incision is almost semi-circular, extending from near the outer canthus about half an inch below the external angular process of the frontal bone backwards along the upper border of the zygoma to its posterior extremity. The knife is then carried down over the parotid region just in front of the ear to the angle of the jaw, and then forward along the lower border of the horizontal ramus as far as the facial vessels. The flap of skin thus marked out can be dissected forwards and secured by a temporary suture to the upper part of the chin, where it is protected during subsequent proceedings by a gauze dressing. It is perfectly feasible to dissect up such a flap without encroaching upon the branches of the facial nerve or Stenson's duct, and it is maintained that this curved incision gives a maximum of space with a minimum of disfigurement, and in no way subsequently interferes with the mobility of the facial muscles. Any hemorrhage from this proceeding must be controlled by the application of Spencer Wells's forceps or ligature.

*Stage 2. Section of Zygoma and Coronoid Processes, and Detachment of Masseter and Temporal Muscles.*—The zygoma is now cut down upon by an incision along its course, and laid bare by means of suitable raspatories and periosteum detachers. Two holes are drilled at the root of the zygoma, and two also anteriorly through the zygomatic process of the malar bone. This is best accomplished by a fine drill driven by a dynamo. The drill used should be of such a size that the perforations in the bone may carry wire of gauze No. 22, and the holes should be about  $\frac{1}{3}$  inch apart. The bone is then divided between them



by a fine saw, and in such a way that the anterior saw-cut is directed obliquely downward and forward, the posterior part of the zygoma being divided as near its root as possible. It is obvious that the bone can be drilled much more efficiently whilst the zygomatic arch is intact; it can then be subsequently replaced without difficulty, and maintained in position by means of silver wire. The zygoma thus detached is displaced downwards and backwards, together with the masseter; to facilitate this it will be necessary to divide the muscular fibres attached anteriorly to the malar bone.

Necrosis of the zygoma has occurred in some instances where it has been detached and turned down by this plan of treatment; but this was probably due either to a septic contamination of the wound, or to some rough handling of the bone which might have been avoided. Care must be taken not to interfere with the attachment of the fibres of the masseter muscle to its under surface, from which its nutrition is derived; and in all probability the wiring of the bone into position after preliminary drilling is another preventive of necrosis.

When the masseter has been drawn downwards and backwards as far as possible, consistent with the integrity of the important adjacent structures, and a little cellular tissue picked away, the coronoid process will be exposed, together with the tendon of the temporal muscle, which, it must be remembered, passes lower down on the inner aspect of the bone than on the outer. In three cases this process was drilled to provide holes for subsequent wiring, and then sawn off obliquely downward and forward. The detached bone was turned up with the temporal muscle, and the deep fibres encroaching upon the ramus of the jaw required careful division; but the after-history of these cases in which the coronoid process was wired has not been very satisfactory as regards the mobility of the lower jaw, for the subsequent atrophy of the muscle and cicatricial development in and around it considerably hamper the movements. In the last case the coronoid process was merely divided and turned up out of the way, being removed, together with a portion of the temporal tendon, at a later stage of the proceedings.

*Stage 3. The Search for the Foramen Ovale* was thus described: A certain amount of cellular tissue and fat will now present, under which will be found the external pterygoid muscle, running transversely backwards, to be inserted into the condyle of the jaw. Running superficially between it and the jaw is the internal maxillary artery, which passes into the sphenomaxillary fossa by dipping between the heads of the muscle. The artery, if it has not been tied at a previous operation, should now be sought for, and divided between a double

ligature. By this means hemorrhage, which might be troublesome during the later steps of the operation, will be avoided. The inferior dental and gustatory nerves, under normal circumstances, pass downwards from under the lower border of the external pterygoid muscle, but if they have been previously removed, their assistance in guiding the surgeon to the foramen ovale is not available.

The external pterygoid muscle is next detached from the great wing of the sphenoid, and from the outer surface of the external pterygoid plate, by scraping it off the bone with suitable raspatories and pushing it downwards. Strands of muscular tissue may need to be picked and cut away with dissecting forceps and a fine pair of blunt-pointed scissors. By this means the under surface of the great wing of the sphenoid is exposed, and the outer pterygoid plate. The foramen ovale is now to be brought into view—a matter often of some difficulty, and occasional reference to a dry skull held by an assistant will be a considerable help in indicating its position in relation to the neighbouring landmarks. It is usually on a level with the eminentia articularis, but occasionally lies a little behind it. In fact the portion of bone which one first reaches in this deep part of the operation is well in front of the foramen, and one is apt to get too far forward, so that the pterygo-maxillary fissure is mistaken for it. In the third of my cases this actually occurred, and at first I trephined the sides of the fissure, not discovering my mistake until I found orbital fat protruding from the opening. The relation to the root of the pterygoid processes is another guide; the foramen lies usually a little behind and external to the base of the outer plate, but sometimes directly behind it. The position, however, is not constant, and Mr. Carless has found the greatest variety in the skulls which he has examined for me. "The base of the external pterygoid plate," he states, "is by no means a fixed guide, in that in many old skulls there is a formation of bone (like a tongue) projecting backwards towards the spine of the sphenoid, external to the foramen ovale, and deeply channelled or grooved for the middle meningeal artery." M. Testât also mentions this fact, stating that it is due to an ossification of the pterygo-spinous ligament of Civinini. The sphenoidal spine lies immediately behind the foramen ovale and about a centimetre from it the foramen spinosum intervening and placed about two millimetres behind the oval opening. The spine cannot, however, always be felt on the living subject on account of the depth of the wound and the limited space in which one is working. Under these circumstances it is important to define clearly with the finger the outer pterygoid plate, and help may be obtained from the facts ascertained by



the measurement of a number of skulls by my colleague, that in an adult male skull the average distance from the anterior border of the outer pterygoid plate (that is, from the posterior lip of the pterygo-maxillary fissure) to the centre of the foramen ovale is about 18 millimetres, whilst in the female adult skull it is about 16·5 millimetres. In both sexes the average measurements are a little greater on the right side, but in skulls that are abnormally large or small they vary to a corresponding degree. Should the above-mentioned pterygo-spinous ridge of bone exist, it may be necessary to clip it carefully away, in order to define the position of the foramen.

*Stage 4. Opening the Base of the Skull.*—This was accomplished by Mr. Rose in his first four cases by removing a disc of bone around the foramen ovale, leaving an opening which was subsequently enlarged. For this purpose a trephine, with an internal diameter of half an inch, was employed, with a blunt-ended centre-pin, which could be inserted well into the foramen. The necessary obliquity at which the trephine was worked was shown to be rather beneficial than otherwise, as the bone is thicker on the outer side of the foramen than on the inner, and may often be broken off along the sutural line between the petrous bone and the great wing of the sphenoid. But the occurrence of epistaxis and the vomiting of some grumous material like coffee-grounds in one of the cases led to an alteration in this proceeding. On careful examination of the base of the skull the position of the Eustachian tube, which had been previously overlooked, seemed clearly to indicate whence the bleeding was derived. This structure lies in immediate contiguity to the ridge of bone which forms the inner boundaries of the foramina ovale and spinosum. A groove will be found in this position in most skulls extending backwards to the point of attachment of the tube to the petrous portion of the temporal bone and forwards to the base of the pterygoid process; and this region in the living subject is occupied by the cartilaginous portion of the tube. It is highly probable that in removing a disc of bone, half an inch in diameter, with the foramen ovale as its centre, this tube will be encroached upon, laying the wound open to the risk of septic contamination from the pharynx.

This consideration was one of several which suggested a different plan of procedure in the last case dealt with. The trephine was applied in that instance to the great wing of the sphenoid a little anterior and external to the foramen, and in such a way that the circumference of the disc just impinged on its outer wall. The opening thus made can be subsequently enlarged if necessary, in any direction desirable. It must not

be forgotten that the thickness of the skull in this position is very unequal, being thinner on the outer margin of the trephine track than on the inner; and inasmuch as the instrument is necessarily applied at an angle, the outer half will be cut through before the inner. This fact renders damage to the dura mater possible unless careful precautions be taken.

*Stage 5. Removal of the Ganglion.*—The trunk or stump of the third division is used as a guide to the ganglion, which should be loosened from its resting-place upon the apex of the petrous bone. No great difficulty will be experienced as regards the posterior half; but inasmuch as the anterior and upper portion is closely incorporated with the dural sheath, it is better to sever the root as far back as possible, and then draw the ganglion forwards. For this purpose the hooks made by Mr. Hawksley, one of which has a cutting edge upon its concave aspect, will be found useful. It is quite possible that in dividing the root of the nerve a prolongation of the subdural space may be opened, from which a little cerebro-spinal fluid will trickle. The second division is now searched for and divided, and the ganglion pulled away piecemeal with forceps or with a small curette, as recommended by Professor Andrewes; no attempt should be made to isolate and divide the ophthalmic division.

*Stage 6. Reposition of Displaced Structures and Closure of Wound.*—All bleeding having been staunched and the wound thoroughly washed out with a 1 to 40 carbolic solution, the coronoid process is to be wired back into position, or preferably removed together with a portion of the temporal tendon. The zygoma is again adjusted into position by means of silver wire, and the wound closed by a continuous catgut suture. No drainage-tube is necessary, but sponge pressure should be applied over the parts for forty-eight hours. Both eyes should be protected with pads of salicylic wool and lightly bandaged.

A certain amount of shock necessarily follows such a protracted operation, and a subsequent elevation of temperature may be expected at the end of forty-eight hours. Beyond this no symptoms of importance have been exhibited. The dressing has usually required changing once or twice in the first four days, at the expiration of which time it may be replaced by gauze fixed down with collodion. The stitches can be removed at the end of a week, if they have not already been absorbed. The eye should be kept closed for at least four days when the stitch in the lids may be removed; it is safer to keep both eyes bandaged for a week, and the eye on the side operated on for three or four weeks.—*British Medical Journal, February 6, 1892, p. 262.*



### 13.—RESECTION OF THE POSTERIOR BRANCHES OF THE FIRST THREE CERVICAL NERVES FOR SPASMODIC WRYNECK.

By CHAS. A. POWERS, M.D., Surgeon to the Out-Patient  
Department, New York Hospital.

In February, 1891, Mr. R. was sent to me by Dr. R. W. Amidon, to whom he had been referred a few weeks previously by Dr. F. Huber, for an opinion regarding a spasmodic affection of muscles of the neck. Two years and a half previously he had first noticed a slight twitching of the muscles of the right side of the neck. This at that time was confined to a very moderate spasm, which carried the head to the right side. It was manifested only when he was suddenly startled or when he was much fatigued. These spasms gradually increased, however, both in frequency and in degree, and when he came under observation they were very marked. He had been given various drugs, electricity, and the like, by several different physicians, no measures being attended by permanent improvement. He was subjected to medical treatment by Dr. Amidon, and this being without effect, he was referred to me, as said, for operative procedure.

The patient presented a rather senile look, stooping, and throwing the head well forward. When left to itself the head was spasmodically rotated to the right to its fullest extent. The patient could carry it back by pressing the chin over with the hand, but when the restraining force was removed it was immediately jerked back to its rotated condition. These spasms were constant during the day, but were worse when the patient was fatigued, irritated, surprised, or among strangers. The right hand was constantly upon the chin, and the patient was unable to use it in work or even at table. The right shoulder was not elevated, there was no spasm of the muscles of the left side, and the right trapezius, sterno-mastoid, and scalenus anticus seemed free from implication. The patient's neck was large, thick, and short ; it seemed somewhat fuller on the right side, posteriorly, than on the left.

The spasmodic movement seemed to be a rotation of the atlas upon the axis. When it took place an increased fulness could be felt in the region just below the occiput and covered by the trapezius, although no contraction could be perceived in that muscle. The patient himself said that he "felt jerks in the deep muscles at the back of the neck." After very careful examination Dr. Amidon considered the affection to be confined to the posterior rotators, and recommended division or resection of the nerves supplying them.

I had but very recently read an article by Dr. W. W. Keen, of Philadelphia, in which he described in detail the steps of an operation formulated by him for the division of the posterior branches of the first three cervical nerves.

After familiarising myself with the anatomy of the part by dissection on the cadaver, I proceeded upon the patient as follows: The occipital region was shaved and the parts were prepared in the usual way. The man was anæsthetised and placed flat upon his abdomen, the head projecting over the end of the table, and so held that the external occipital protuberance was in a straight line with the vertebral spinous processes. A three-inch transverse incision was made at the back of the neck, beginning at the median line an inch and a quarter below the external occipital protuberance and running forward. This was subsequently enlarged until it measured four inches and a quarter in length. The parts were divided through the trapezius and the posterior border of the splenius, until the complexus was reached and recognised, the trapezius being dissected up from it. After some difficulty the occipitalis major nerve was found at the upper part of the complexus and outside of the intra-muscular aponeurosis of this muscle. Preserving the nerve, the complexus was divided transversely, after which the nerve was followed back to the posterior branch of the second cervical before that nerve gave off the filament to the obliquus inferior.

The inferior oblique muscle was then found, passing from the tip of the transverse process of the atlas to the spinous process of the axis; also the superior oblique and the rectus capitis posticus major, the three bounding the suboccipital triangle, in which was discovered the suboccipital nerve lying in close relation with the vertebral artery. The nerve was followed back to its exit from the spinal canal, between the occipital bone and the posterior arch of the atlas.

Following down beneath the complexus, the external branch of the posterior division of the third cervical was found. This was followed back to the bifurcation of the main trunk. One had at command, then, the nerve supply to the inferior oblique, the rectus capitis posticus major, and the splenius, the three posterior rotators, the first being supplied by the first and second cervical, the rectus by the suboccipital from the first cervical, and the splenius by the second and third cervical.

Each nerve was followed well back to the spine, and a half to three quarters of an inch excised from each of the three. Buried muscular sutures were inserted, a drainage-tube laid to the bottom of the wound, and the skin sewed up. A large antiseptic dressing was applied, and the head fixed in moderate extension by plaster. The operation consumed nearly two hours,



the dissection being necessarily carried on slowly and carefully. I have already said that the patient's neck was very short and thick. The deeper muscles seemed enlarged and dense. The wound was deep, yet the length of the incision gave access to its bottom, and the light from a window was amply sufficient to enable one to see clearly. The recognition of the occipitalis major, running as it does in the direction of the fibres of the complexus aponeurosis, was not easy. It was only after following out several strands of fascia that I found the nerve. The suboccipital lay deep, yet was found far more easily than the third nerve, which was beneath the lower part of the complexus. The hemorrhage was slight, yet oozing was at times troublesome. The abdominal position of the patient made the administration of the anæsthetic difficult, yet his condition remained at all times good.

On coming out of the anæsthetic the patient had no spasms of the neck; the head was in the median line, and remained there until the final removal of the dressings. The wound healed *per primam* throughout, the tube was removed on the fifth day, and all dressings were taken off at the end of ten days. At this time there were a few slight spasms, but they did not persist. Directions were given regarding massage and the like, but they were disregarded, and the head gradually assumed a position of contraction, with the face drawn to the right.

The patient escaped from observation, and was not seen until during the past month, when he was examined by Dr. Amidon and myself, and, at our request, by Dr. C. L. Dana. The present condition is as follows: When the patient stands erect, the right acromion is on a plane an inch and a half to two inches above the left. The head is carried in a position of rotation to the right, and lateral inclination a little downward to the same side. Voluntary rotation to the right is normal, and when the head is in this position it can, with effort, be returned to the median line by the right sterno-mastoid; but effort to carry it beyond this and to the left is attended with difficulty, and seems antagonised by deeper muscles of the right side. Extension of the head is very nearly normal, and, when it is thus extended, rotation to either side is free and unrestrained. Flexion of the head on the chest is nearly normal, but when in position of flexion, rotation to the left is most difficult. The head can be drawn toward the shoulders more freely on the right side than on the left. There seems to be a tonic spasm of the anterior fibres of the right trapezius, and a hard, tense cord can be felt between the trapezius and sterno-mastoid; this is apparently the levator anguli scapulæ. There is a scoliosis of the cervical vertebræ, the convexity of this being to the left, above. There is a skin "fold" where it laps over on the right side of the neck,

and beneath this fold lies the cicatrix, the line of which is hardly noticeable. There is a fairly marked depression at the site of the outer third of the cicatrix.

From the fact that rotation is free when the head is extended, it seems probable that there is a tonic spasm or permanent shortening in the splenius. The patient has no pain or spasmodic movements, and, in spite of his present contracted wryneck, he expresses himself as feeling that his condition is vastly better than it was before the operation. The condition on February 24, 1892, was greatly improved; the deformity but slight, all movements of the head quite free, there had been no return of the spasms, and he was able to attend to his daily work, which was impossible before the operation.—*The New York Medical Journal*, March 5, 1892, p. 254.

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## DISEASES OF THE ORGANS OF CIRCULATION.

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### 14.—REMARKS UPON ANGINA PECTORIS.

By JAMES F. GOODHART, M.D., F.R.C.P., Physician to Guy's Hospital.

[The following is an excerpt from Dr. Goodhart's second Harveian Lecture :]

There was a discussion a few months ago at the Medical Society on this subject of angina pectoris, but what I have to say on the subject was said several years ago in the Guy's Hospital Reports, and is not in any way inspired by that discussion. I say this because I had independently arrived at certain opinions as the result of my own observation, and they are therefore additions to any consensus that may be in course of formation on the disease. I had it on my lips to say that I have nothing new to add to what I wrote in 1887. But I have this addition to make, that whereas I thought there was a neurotic element in the disease then, I think still more so now, with a considerable addition to my then experience. Of late years the explanation of the attacks has all gone upon one line, that the disease is due to a rise in tension in the arterial system, and this suggestion we owe chiefly to an observation of Dr. Lauder Brunton. The late Dr. Hilton Fagge adopted that explanation, and considered the fact sufficiently established by the therapeutic results so frequently obtained from the use of the drug recommended by Dr. Brunton on the ground of his observations. But these observations were made upon a case of angina with aortic regurgitation, and I do not think they carry



much weight for the general run of cases. Angina pectoris clearly comes on in some cases of advanced heart disease associated with high tension, and sometimes this is so with aortic disease, sometimes with the large and dilated heart of renal disease. But it is only quite exceptional that this result happens in these diseases, for one case with angina there are many that show no such feature; and, on the other hand, I consider that the characters of the pulse in the greater number of cases enables us to say that the arterial tension is not high. There can be no doubt that angina comes about through a number of conditions, in which the only common factor is muscular fatigue. Arterial tension will produce this; so also will dilatation; so also will badly nourished muscle, whether this be due to starvation from disease of the coronary arteries, to senile degeneration of the muscle, to fatty changes, to ptomaine-poisoning, to the circulation of uric acid in the blood, and so on. And the remedies that are so useful, nitrite of amyl and nitro-glycerine, without throwing any doubt on their power of relaxing arterial tension, are none the less also relaxors of muscular spasm and cramp. I believe it is by virtue of this power more particularly that they work their effect in the disease under consideration. This hypothesis of heart cramp consequent upon heart fatigue is one that adapts itself to all the conditions under which angina is known to occur. But I am only concerned with that form of the disease that occurs without any definite structural change; with those cases in which apparently healthy men are suddenly seized with pain which may kill them within a very short space of time, and yet the heart's action may be hardly, perhaps not at all, disturbed, and the sounds are practically normal. Supposing that the attack passes off, it leaves behind it the painful uncertainty, such as hangs over the epileptic, that another may come at any time. Trousseau with his clinical acumen, seized upon this parallel with epilepsy, and considered some cases to be of the nature of an epileptiform neuralgia, and others also of a neuralgic nature from their frequency in the gouty. There are, indeed, several features of many of the attacks that further this idea; they are often accompanied by troublesome flatulence, by flushings in the head and face, by tingling in the arms, which all remind one of the erratic performance of electric apparatus during violent atmospheric disturbances. I have suggested, too, that in the crises of tabes dorsalis and diabetes there are instances of severe abdominal neuralgia, to which this thoracic crisis or angina is in many respects comparable. I may further add that it is often associated with a very sudden bronchial storm that can only be called acute bronchitis; and although we make much of it as a distinct affection, it is closely allied with,

and sometimes very difficult to distinguish from, the attacks of air hunger in their more extreme degrees that are seen in uræmia and in states of cardiac failure. These and such as these are probably all ordained from a worried nervous centre.

Now these cases of angina that exhibit a distinctly neurotic type are they that loom more largely as one's experience grows, and which enshroud the whole subject in difficulty. I look up my notes of angina, and where it was obviously due to disease of heart or kidney they are gone; but where there was no discoverable affection I could give several where the disease has been absent several years; I could give others where the recurrence has been frequent and yet no harm done, the attacks being, it is needless to say, mild ones. And then there are a very large group of cases where one remains in doubt whether the symptoms have any import of serious kind.

The remedy for the anginal paroxysm is unquestionably nitro-glycerine or nitrite of amyl, and perhaps in so terrible a disease, and one in many cases of which it will ever be difficult to say whether any structural change is at the bottom of it or not, it may seem unwise to go behind the fact that we have a drug that in most cases has a decided power. But it is not really so, because no thoughtful man can have seen many of such cases without having often asked himself the question whether he is doing the best for the patient by keeping him from all exertion and telling him to consume a tablet when his pain threatens. And this much is certain, that, control it as much as the remedy may, it is in a fair proportion of cases only controlling a symptom, and the cause of it is deeper. In my opinion, then, angina sometimes constitutes a disease for which the gastric crises of locomotor ataxy and diabetes afford the nearest parallel; in others, perhaps, the condition of calf cramp comes nearest to it in likeness. In the one it may possibly be due to the uric acid diathesis, in others to the explosive nervous discharges that are well known to take place in the worried and overworked. I must not take leave of the subject of angina without alluding to that always to me curious and interesting affection of women—the common and well-known pain in the left side. Has it or has it not anything to do with the true disease? It would appear to be a very troublesome affection; it lasts so long and is so difficult entirely to displace. It is curious that it should occur so seldom in men, but one may suppose that this has to do with the associated anæmia with which it so commonly occurs, and which in anything like a corresponding degree is so seldom seen in males. And the fact that it does so occur in anæmic women only is perhaps an evidence in favour of it being something of the same kind as the true disease, for if, on the one hand, we consider angina as



a condition due to fatigue, we have in these women the bloodless condition best suited for its easy production ; if, on the other, we like the better the neuralgic origin, we have, too, under such circumstances, all the elements that seem best fitted for the calling out of the pain, and abundant evidence that it is the parent of any number of neuralgic affections. But whether this pain in the left side be related to true angina or not, it is quite certain that, except there be a probable cause for it in the existence of cardiac disease, true angina never occurs in young women ; and when I consider that I have several times been asked to see young people supposed to be suffering from this serious disease, I imagine that the fact is not known so widely as it might be.—*The Lancet*, January 30, 1892, p. 240.

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## 15.—REMARKS ON TRACHEAL TUGGING AND ON ITS CLINICAL VALUE.

By WM. EWART, M.D., F.R.C.P., Physician to St. George's Hospital.

At the time when Dr. MacDonnell's paper called attention to the subject, I had under treatment in St. George's Hospital a case of inveterate cough and bronchial catarrh, beginning, so I thought, with gouty bronchitis, and presenting the usual signs. Up to that time, neither by myself, nor, as far as I gather, by anyone else, had any suspicion of aneurism been entertained. The existence of aneurism of the arch of the aorta was at once revealed to me when I applied Dr. Oliver's test, and shortly after the treatment had been modified, the cough and the noisy râles abated, and dulness and tubular breathing could be recognised in the interscapular region and to a very slight extent in the right infraclavicular space also. The patient is still in bed, and presents several obvious signs of aneurism, but no pulsation. He owes his improved health and probably his life, through Dr. MacDonnell's agency, to Dr. Oliver.

Since that date I have regarded "tracheal tugging" as an important aid to diagnosis ; and hearing that its value was doubted owing to its presence in some healthy persons, I was led to enquire into the frequency of its occurrence, independently of aneurism, in the two sexes, at different ages, and under various states of health. With this inquiry I combined observations as to the relative value of Dr. Oliver's method of eliciting the sign, and of that which I had happened to devise and to use from the first.

*The Method of Examination.*—The process recommended by Dr. Oliver is as follows: "Place the patient in the erect position and direct him to close his mouth and elevate his chin to the fullest extent, then grasp the cricoid cartilage between the finger and thumb, and use gentle upward pressure on it, when, if dilatation or aneurism exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress, should this accompany the disease."

In an alternative method, the observer stands behind the seated patient, whose head is slightly thrown back, and steadied against the observer's chest. The tips of both index fingers are then inserted under the lower edge of the cricoid cartilage, which is gently raised by them.

*The Occurrence of Tracheal Tugging in the Absence of Disease of the Aorta.*—Sixty male subjects and fifty-seven females were examined with both methods. In 28 per cent. of the females and in 50 per cent. of the males, some degree of "tracheal tugging" was recognised, the higher percentage in the males being partly accounted for by three cases of aneurism which gave the tug being included in the list. This unexpected frequency appeared to detract from the diagnostic value of the sign; but, in reality, a large majority of the cases were described as "doubtful or very slight," a few as "moderate," and three only as "marked"; and these were the three cases of aneurism. In none of the females was the tugging pronounced, and in several it was present only during excitement.

Although, in a modified sense, Dr. Oliver's views had been confirmed, yet the upshot of the inquiry was to show that the significance of the sign was not so simple a question as had been stated originally, and that, before any final conclusions could be drawn, much more numerous observations were needed than I had had leisure to make. It had also come to light that some account must be taken of the personal factor in the perception of the slighter degrees of tugging, and in the appreciation of their value.

*Circumstances Influencing the Occurrence or the Degree of Tugging.*—Early in the inquiry I had suspected that thoracic conformation and the size of the lungs might have some connection with the existence of this peculiarity, and I had imagined that a short thorax and pulmonary emphysema might favour the occurrence of tugging. These were only suggestions which I have not had an opportunity of putting to the test. Two points were very clearly made out—(1) the favouring influence of cardiac excitement (this was most obvious in several females), and (2) the favouring influence of



forcible inspiration. The former might have been expected. The latter is, I believe, explained by the stretching of the air-passages as a whole during inspiration, and particularly by the slight inspiratory descent of the larynx, which perceptibly intensifies the traction already made on the cricoid by the observer's fingers. In anticipation of remarks which are to follow on the subject of the probable mechanism of the tugging in aneurism, it may be provisionally stated that in that disease tugging, when present, has been, in my experience, unmistakable and easily obtained even with so rough a method as tilting the cricoid cartilage on the tip of a single finger or thumb placed in the middle line and whilst the patient remained in the horizontal position.

Two important questions will require for their solution further observations and careful study: (1) Can an aneurism of the arch of the aorta be present without yielding Oliver's sign? and (2) Is tracheal tugging ever strongly developed, except in cases of aortic aneurism or dilatation involving the transverse portion?

Professor MacDonnell has shown, and I am now able to show, that aneurism of the ascending aorta does not necessarily occasion tugging. This, again, might be thought to lessen—my own impression is that it raises—the practical value of the sign. In these cases the difficulty does not reside, as when the disease is limited to the transverse portion, in the discovery of the aneurism, but in an estimation of its size. What we want to find is whether the aneurism does or does not involve the arch of the aorta also. If strong tugging could only be produced by disease of the transverse position its localising value would be in proportion to this strict limitation; and we should derive from its occurrence in disease of the ascending portion most important information.

I have at the present time under treatment two cases of aneurism of the ascending aorta, with pulsation in the right third intercostal space, between the nipple line and the sternum. In one of these men marked tracheal tugging occurs; in the other (whose pulsating tumour was rather larger than that of the first) it is completely absent. How do these two aneurisms differ in size and in shape? Do they both, or does only one of them, implicate the arch? Tracheal tugging may in the future enable us to determine important differences of this kind; for the present it has at least succeeded in calling our attention to the possibility of diagnosing them long before the stage of laryngeal symptoms—this alone is an advance.

*The Supposed Mechanism of Tracheal Tugging.*—The surface of contact between the arch of the aorta and the left bronchus is of very limited extent. Any circumstance which will cause

the vessel to sit tightly instead of loosely astride the bronchus would presumably give rise to tugging. Thus, a considerable aortic dilatation or an aneurism, if occurring at that part, would occasion the sign. With regard to aneurism, it may be remarked that, since internal space is occupied—whether the lower or whether the upper aspect of the transverse portion be involved—closer contact with or even pressure on the bronchus would result in both cases.

When the ascending portion is alone involved the conditions are quite different. Pressure may bear on the right bronchus and on the tracheal bifurcation, but no pressure arises from above such as would depress the left bronchus. Indeed, if I am right in thinking that the effect of an aneurism of this sort is to lengthen the axis as well as the transverse diameter of the aortic segment involved, a previously tight-fitting arch might become loosened. This explanation has suggested itself for the apparent anomaly in one of the two cases of pulsating aneurism mentioned above.—It is open to us to assume that in this patient—not presenting tracheal tugging—the transverse part of the arch is free from dilatation, whilst dilatation probably exists in the other case.

If, however, Dr. Grimsdale's idea should prove to be correct, and that it should be established at some future time that tracheal tugging can result only from such aneurisms as involve the posterior and inferior aspect of the vessel, then the localising value of the sign would be still greater, and we might even find ourselves in possession of two alternative means of diagnosis; tracheal tugging occurring without laryngeal symptoms might point to the existence of a very small aneurism, threatening death by rupture into the left bronchus; whilst paralysis of the left vocal cord, occurring in the absence of tracheal tugging, might be interpreted to mean that the bronchus was not under pressure, although some bulging of the anterior surface of the arch had occurred.

*The General Clinical Value of Tracheal Tugging.*—The foregoing remarks, although partly speculative, may justify the view which I take of the importance of tracheal tugging in the diagnosis of aneurism. There is, however, a further aspect to this subject. What significance are we to attach to the relatively frequent occurrence of slight tugging in healthy persons? The presence or the absence of this peculiarity constitutes a difference between individuals which must have its meaning, and which probably will have its future uses, perhaps in directions far removed from the diagnosis of aneurism. Any clinical sign is worth studying in itself, irrespective of its practical applications. Moreover, the uncertainty still prevailing as to the mechanism of tracheal tugging in particular should be



an additional incentive to research. As an outward sign of deep-seated internal events, I believe that tracheal tugging will acquire as much clinical importance as the other vascular and cardiac impulses which we have been trained to observe. In any case, this is a subject worthy of thorough investigation on a much larger scale than I have had leisure to attempt; and physicians should not lightly neglect the opportunity afforded to them by a large proportion of subjects of indirectly feeling the pulse of the transverse aorta.

It has not yet been pointed out that the left bronchus has a still closer connection with the left pulmonary artery than with the aorta, whilst the arch formed by the former vessel is much shorter and less curved than the aortic arch. Perhaps the slight tugging discovered in healthy persons may have its origin in the normal pulsation of the pulmonary artery.—*British Medical Journal*, March 19, 1892, p. 596.

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#### 16.—ON MEDIASTINO-PERICARDITIS IN CHILDREN.

By HENRY ASHBY, M.D., F.R.C.P., Physician to the Hospital for Sick Children, Manchester.

[Dr. Ashby's paper, from which the excerpt is taken, contains the narratives of two examples of this disease.]

The loose areolar tissue in the mediastinum, which acts as packing material, is certain to share the same pathological fate as the structures and organs with which it comes into relation. An inflammatory process in progress in the lymphatic glands which lie at the bifurcation of the trachea and along the bronchi, is likely enough to start more or less inflammatory trouble in the connective tissue of the mediastinum. The inflammatory trouble may originate in the lungs or pleura, and it is not surprising to find that the pericardium almost universally joins in the process. In some of these cases it is impossible to say at the post mortem where the inflammatory process originated, for we find a matting together of the anterior edges of the lungs and pericardium, and also to the chest wall, while the aorta, large arteries and veins in the mediastinum may be surrounded and bound together.

A pericarditis or pleurisy is often no doubt the starting-point. A chronic inflammatory process commences by means of which tough cicatricial tissue is formed, which binds the organs together in a sclerotic mass of perhaps cartilaginous hardness, and which it is needless to say greatly hampers the movements of the heart and lungs.

In other cases, as already pointed out, the starting-point is the bronchial glands, which may have become tubercular: a local spreading taking place which involves the areolar tissue in the vicinity, the pericardium, and perhaps the pleural surfaces of the lungs. It is not always easy to demonstrate that the tubercular glands supply the starting-point, as it may easily happen that in a chronic mediastinitis or pleurisy the glands may become secondarily enlarged and caseous.

The effect of this matting together of the various organs is certain to be serious as far as the circulation is concerned. The effect will, of course, vary according to the extent of the adhesions, as well as of their toughness and hardness. The adhesions which connect the external surface of the pericardium to the chest wall and surrounding structures, as well as the adhesions between the serous surfaces of the pericardium, must necessarily hamper the heart's action, and prevent an effectual systole, and consequently the arterial system is imperfectly filled. The movements of the chest walls, especially during inspiration, will be interfered with and weakened, so that the aspiratory power exerted during inspiration in drawing the blood from the large veins towards the chest will be checked. The large veins in the thorax may be bound down and compressed, so that they offer an obstruction to the blood entering the chest. Another effect of the adhesions may be to drag on and compress the aorta and large veins during inspiration, and this is alleged to be the explanation of the weakening of the pulse during deep inspiration in these cases.

With one or more of these causes in operation, it is certain the circulation will be carried on under unfavourable conditions, and lead to an overfilling of the venous system, and consequently more or less œdema, and perhaps an accumulation of serous fluid in the peritoneal cavity. The greatest effect, however, appears to be exerted on the hepatic system, the hepatic veins are in a constant state of congestion, the liver becomes enlarged and nutmeg, as in long-standing mitral disease; the portal system in its turn becomes overfull, and gradually the peritoneal cavity is distended with serous fluid. In some cases, in consequence of the long-standing congestion, a secondary cirrhosis takes place.

Turning now to the clinical side, we may inquire what symptoms are there likely to be in the earlier stages or during the period when the inflammatory process is in progress.

There may be in some cases a history of measles or bronchitis, with cough or pain in the chest, but usually they are too indefinite to suggest any definite lesion until other symptoms follow.



At this time, if an opportunity occurs, a pericardial or exocardial rub may be detected. In most cases the first significant symptom is ascites; the abdomen having steadily become larger until it attracted the attention of the friends, and medical advice is then sought. The child may be apparently well except for its swollen abdomen, while an examination of the chest or urine throws no light on the case. Possibly at this stage there may be some œdema of the face or distended veins in the neck, which suggest some obstruction to the return of blood to the lungs. Sooner or later an enlarged liver is felt, and if the edge can be felt distinctly enough, it may perhaps be found to be irregular or even bossy. At this stage the case is probably puzzling, and if tubercular peritonitis can be excluded, a primary cirrhosis of the liver is likely to suggest itself. There is evident portal obstruction, but the cause of the obstruction is not obvious.

Some of these cases are very chronic; they are relieved by tapping, and they may go on for many months or perhaps a year or two. But sooner or later a more or less general œdema makes its appearance; the face and perhaps the arms become dropsical, and the feet and legs are sure to become so before very long. In other cases the course is certain to be more acute, and this is especially true of the tubercular cases; their career being cut short by an extension of the tubercular process. Probably also the younger the patient the shorter the course is likely to be, inasmuch as the younger the patient the more readily will he become waterlogged from any cause interfering with the circulation, and there is less chance of a compensatory hypertrophy of the heart.

A careful examination of the chest is necessarily called for in these cases. Any extensive matting of the anterior edges of the lungs in the anterior mediastinum, and a pericardium adherent to surrounding structures, will certainly give rise to an increased area of dulness over the sternum and front of the chest; while if the lungs are not involved and freely overlap the heart and bronchial glands, there may be no increased dull area.

Much stress has been laid by several writers on the weakening of the pulse which is said to take place during a deep inspiration in cases of mediastinitis; in some reported cases the pulse has actually disappeared during inspiration. This has been explained as being due to the aorta being dragged upon when the chest expands, and consequently the flow of blood from the heart to the arteries is interfered with. In neither of my cases was this observed, but in the first case the boy was too young and too ill for such observations.—*The Medical Chronicle*, December, 1891, p. 145.

## 17.—SOME FEATURES OF HEART AFFECTIONS IN CHILDHOOD.

By OCTAVIUS STURGES, M.D., Physician to the Hospital for Sick Children, Great Ormond Street, London.

My present design is to call attention to certain features of heart disease special to children, and apt, therefore, to be overlooked or misunderstood unless separately studied. What chiefly claims notice is the nature of functional heart disturbance and of carditis in these young subjects; the frequency of recovery from such conditions; and the fact that both are often expressed by physical signs merely, the child's general health being unaffected. The latency of early heart disease in children is due in large measure to the indefiniteness of child's rheumatism. Yet not to this alone. The physical indications themselves may be difficult. This is especially the case with pericarditis. The friction graze indicative of this inflammation may be so slight or so inconstant, or so precisely synchronous with the proper heart sounds, as to escape notice. The frequency of pericarditis in connection with slight joint pains—which are really rheumatic—is on this account much underestimated. Until the ear is attuned to them the many modes of pericardial rubbing are hard to catch. The obvious to-and-fro friction sound of extensive pericarditis in no way resembles it. What has to be listened for is the presence of a sound or of sounds over and above the endocardial, and nearer than they are. In very many cases it is only by long and repeated listening, both with the stethoscope (varying the pressure) and with the ear applied directly to the naked chest, that this graze will be revealed, presently it may be to disappear for a while, yet once heard of perfectly definite significance.

But with the quickest ear the frequency of pericarditis is not to be estimated by audible friction only. There may be neither rub nor graze, and yet pericarditis, of which, in that case, the earliest certain sign is effusion. Evidence of this consists in a slight shifting to the left of the apex, and a slight broadening of the cardiac triangle near its base, physical signs too small to be estimated unless the exact apex place and the exact shape of the cardiac dulness have been previously ascertained.

The recurrence from time to time in rheumatic children of pericardial friction or slight effusion, with perhaps some joint pain and tenderness, but no repetition of the original rheumatic attack and no obvious disturbance of health, is an important element in prognosis. The pericardium is as the joints; pericarditis is the equivalent of arthritis. Every recurrence of joint pains in these subjects must be regarded as a fresh menace



to the heart and suggest physical examination. Yet though the discovery of a pericardial graze is no doubt disquieting, it is not easy to see what good is to be got (pain being absent) by local applications or active treatment. If we could silence the rub it does not follow that we should therewith help the heart. What does silence it sometimes of a sudden and for ever is pericardial adhesion, an event we would avoid. Children who suffer these recurrent attacks are very apt in the end to become cardiac cripples ; they need extra care, with protection from exposure, mental excitement, and bodily fatigue—all in their several degrees possible provocatives of rheumatism.

Now, pericardial rubbing in the circumstances we are considering, though it may be intermittent and hard to hear, yet once heard can have but one meaning. On the other hand, what precisely are the physical signs of early endocarditis nobody knows. Where there is pericarditis, provided it is rheumatic, we may almost assume that there is endocarditis also, which may or may not presently reveal itself by infallible physical signs after the exocardial rubbing has ceased. Extreme caution is necessary before pronouncing that the altered heart signs—the murmurs and disturbed rhythm which, more or less, are invariable in child's rheumatism—are of such sort as to imply heart disease. Quickened action, "excited" impulse, uneven rhythm, soft apex murmur, double second sound at mid-sternum—these are habitually concurring heart signs in acute rheumatism. As the joint inflammation subsides and the heart steadies there comes the time of doubt as to its precise physical state—a doubt which is seldom quite resolved when the patient becomes convalescent and is dismissed. The subsequent return of some of these children may decide this question in so far as they are concerned. By that time some are found to have unquestionable signs of heart disease, and some have wholly recovered. But it is obvious that the former class will return in larger proportion than the latter ; so that we can never be sure whether recovery is the rule or the exception.

We might even, I think, go so far as to say that in children there is hardly any heart action or heart murmur which, provided it be new (a provision which excludes blowing murmur, thrill, and marked presystolic or double mitral murmur), indicates for certain irrecoverable disease. Unlike what we observe in the adult, except very rarely, a slight presystolic murmur at apex, diastolic aortic murmur, doubling of the second sound, equally with pericardial graze, will appear and disappear. Their significance is determined by their endurance. Time will serve in some cases to develop additional morbid signs of no doubtful meaning, and in some to restore

almost or altogether the heart's natural sounds and rhythm. Acute rheumatism will always disturb the heart. That only is certain. It must be left for the future to say whether such disturbance means permanent damage.

Mitral stenosis in children, which is almost always rheumatic, is not at first disabling. I doubt the wisdom of making patients of these young subjects solely for the reason that their hearts are thus changed. The need for early treatment will depend very much on the recurrence or not of rheumatic attacks, and the worst event to be feared in the course of them is pericardial adhesion. Children who keep free from such attacks will go on for a long time without heart trouble. Other children less fortunate will have frequent recurrence of what is really acute rheumatism, though of short duration, with only slight pyrexia and transient joint pains. With these latter the heart deterioration in the way of dilatation is apt to be very rapid, and is indicated by dyspnœa, palpitation, and presently œdema. And there are two physical signs which as these cases progress indicate what the end is to be. One, and the earlier, is the detection from time to time with the successive rheumatic attacks of renewed pericardial friction; the other, and the later, which becomes the more obvious after the rubbing has finally ceased, is rapid enlargement of the heart area, both across and lengthways. Of the origin of this change it does not become us to speak positively in the patient's lifetime. But we know for certain, and can show in our museum, that the common cause is adherent pericardium.

Systolic apex murmur of very doubtful significance becomes more prolonged and blowing; there comes presently an additional murmur in the diastolic period; friction rub is heard. But at the first none of these signs are constant, and the opinion as to organic disease formed one week may be questioned the next. Yet, on the whole, the more significant and ill-omened physical signs become more obvious and more persistent, and at last the occurrence of thrill, marked presystolic murmur, and sometimes, as in this instance, signs of aortic disease besides, with perceptible increase in the heart's size, complete the evidence in favour of permanent and extensive lesion. Meanwhile the patient himself is gradually regaining his former health, disturbed by the rheumatic attack, and by the time heart disease is established beyond a doubt he is apparently well.

The points which have been discussed and illustrated may be thus stated:—1. Heart disease in childhood, whether functional or organic, is apt to be overlooked and misunderstood. Overlooked because its early signs are often only discoverable by careful physical examination, and misunderstood because such divergence from the normal as in the adult usually



implies structure change is in the child often due to temporary disturbance. 2. Owing to the equivocal symptoms of acute rheumatism in children, and the indistinct and intermittent character of pericardial rub at that age, the occurrence of pericarditis, which may mean the commencement of heart disease, often escapes notice. 3. The earliest physical signs proper to endocarditis cannot be defined. The heart's sounds and action are invariably modified in acute rheumatism, and while pericarditis almost implies endocarditis, irregular rhythm, systolic apex murmur, doubling of second sound, slight pre-systolic murmur, will all in their several degrees suggest it; but indubitable signs of material heart change are gradually developed as the result, and not by the mere presence, of endocarditis. 4. The clinical history and morbid anatomy of chorea warrant the belief that mitral systolic murmur, increasing until it becomes slightly blowing, and then decreasing until it disappears, may be due to a form of mitral endocarditis common in chorea, less common in rheumatism, that is recovered from without heart deformity. 5. Mitral stenosis, the common sequel of rheumatic endocarditis, is not at once disabling. The well-being of a child having this defect depends largely on his immunity from subsequent rheumatic attacks, however slight; and what chiefly abridges the period of health he will enjoy is the occurrence of adherent pericardium either in the first or some later attack.—*The Lancet*, March 19, 1892, p. 621.

## 18.—ON THE USE OF DIGITALIS IN AORTIC DISEASE.

By ALFRED G. BARRS, M.D., M.R.C.P., Senior Assistant-Physician to the Leeds Infirmary.

It is still very commonly held that digitalis should not be given in cases of aortic valve disease, or, if given, should be used with much greater caution than in mitral disease. In mitral disease, on the other hand, there is an almost unanimous opinion that digitalis is the best remedy for all the consequences following upon that lesion. If this statement of the present views of the profession is correct in regard to the treatment of chronic valvular disease—for I am not, it need scarcely be said, including the acute and destructive forms of endocarditis in my statement—there is clearly some essential difference (apart from the position of the lesions and their consequences), real or imagined, in the conditions requiring treatment in the two most important diseases of the heart.

In order that we may see clearly the object in view in administering digitalis, or, indeed, any drug, to persons suffering from either aortic or mitral disease, it may not be out of place

to recall, very briefly, the objects of the circulation of the blood, and how these objects are frustrated or not fully attained when disease of the valves in question exists.

Professor Foster says : "In order that the blood may be a satisfactory medium of communication between all the tissues of the body two things are necessary. In the first place there must be throughout all parts of the body a flow of blood of a certain rapidity and general constancy. This condition is dependent on the mechanical and physical properties of the vascular mechanism, and the problems connected with it are almost exclusively mechanical or physical problems." And, again : "It is in the capillaries (and minute arteries and veins) that the business of the blood is done ; it is in these that the interchange of material takes place, and the object of the vascular mechanism is to cause the blood to flow through these in a manner best adapted for carrying on this interchange under varying circumstances."

Now I would venture to point out that the efficiency of the capillary circulation depends not upon the direct action of the heart but upon the pressure of the blood in the larger vessels, which pressure again is maintained by the combined effects of at least four different factors or forces in the circulatory mechanism, namely, the contraction of the ventricle, the elasticity of the large arteries, the quantity of blood, and the resistance in the periphery of the vascular system, just within, so to speak, the capillary area. When this blood pressure is disturbed and falls below the normal line corresponding disturbances arise in the capillary circulation, giving rise to symptoms—symptoms of failure of the circulation. The question is entirely one of blood pressure. Without a proper blood pressure, however, it is established, there cannot be an efficient circulation of the blood. By whatever mechanism the blood pressure is maintained, whether by a normal or diseased heart as one of the factors maintaining it, it matters not.

It is mainly as mitral and aortic disease affect these conditions do they produce symptoms bringing patients under observation and requiring treatment. The actual mechanical condition of the valve in question admits of no medicinal treatment so far as I know, much less does any abnormal sound we may hear on examination of the heart. In short, that which requires treatment in the great majority of cases is the effect produced by the lesion of the heart upon the blood pressure, and through it upon the capillary circulation in the body generally. And the converse of this is true : that when valvular disease, as fortunately is very frequently the case, is not producing any disturbance in the capillary circulation—whatever physical signs there may be of hypertrophy or other cardiac change—treatment of any kind



whether by digitalis or anything else, is not only not necessary, but in some cases absolutely injurious. But the cases without symptoms will not come for treatment, for patients know nothing of symptoms pointing directly to the heart; at least in my experience it is quite exceptional for them to make any complaint of the heart itself. Cardiac pain, anginiform seizures, palpitation, and the like, do not as a rule make themselves conspicuous till long after the patient has become more or less disabled by shortness of breath, cough, or some one of the more seriously crippling effects of cardiac disease. I may, however, remark in passing that obscure abdominal and thoracic pains have been in several instances in my experience the only extrinsic symptoms of organic—usually aortic—valve disease.

Essentially, that which we have to treat in any given case of valvular disease, mitral or aortic, is the effect produced by that lesion upon the blood pressure, and through it upon the capillary circulation; and that effect is always of the nature of failure of the circulation.

Now, is there any essential difference in the kind of failure in the two diseases or in the method by which the valvular lesion produces this failure? It seems to me that there is no difference.

The natural tendency to death in mitral disease is by failure of the right ventricle, or one might say of both ventricles, to maintain the circulation, for there can be no doubt that, judging from its condition after death, the left ventricle is largely involved. And it is towards preventing this failure of compensation, or restoring it when broken, that all our treatment is directed, and for that purpose no drug can compare with digitalis when given in efficient doses. This almost all will admit. In aortic disease do not the same considerations obtain? The patient's danger is from sudden or gradual failure of the left ventricle, which previously had been able to compensate by hypertrophy the difficulty introduced into the circulation by the insufficiency and incompetency of the aortic valve. As I have just said, I am unable to see any fundamental difference between the two conditions; on the other hand, it seems to me that they must be essentially the same; and whatever is true of mitral disease, its dangers, and how to meet them, must be equally true of aortic disease. Why is it, then, that it is still held and taught by many that digitalis is the remedy for one, and not for the other; or not only not the remedy, but the one thing to precipitate the inevitable end?

There is very little doubt, I think, that those who hold that it is improper or dangerous to give digitalis in cases of aortic disease take their stand mainly upon the teachings of pharmacology, and the question I wish to raise is, Are the teachings of pharmacology in this regard confirmed by clinical experience?

My own answer to the question is that they are not. A fairly large experience has taught me that there is no danger in giving it in any case of aortic disease requiring treatment, and that in many cases its use has been followed by benefit just as marked as in any case of mitral disease. (Here I would remark in passing that the effects of treatment in aortic disease cannot as a rule be so striking and objective as in mitral disease, where the change in the appearance of the patient—in his pulse, and above all the rapid disappearance of dropsy—can be estimated at once.)

I have seen, as all have, many cases of aortic disease in which, in spite of digitalis, the broken compensation could not be restored, for there comes a stage of cardiac disease in which we can do no more; but I have never seen any case in which there was any good reason to say that, though digitalis had failed, it had done harm. Those who are content to give small doses—such as three or four minims—of the tincture of digitalis cannot really expect to see any good effect, and, in spite of the treatment, the case goes from bad to worse. I am convinced that, given in efficient doses, digitalis is just as much the remedy for aortic as it is for mitral disease.

It has always seemed to me that the out-patient room of a large hospital is the place in which one is likely to come to a fair conclusion as to the value of any drug in the treatment of cardiac disease, for, in the case of the out-patient, no new element beyond the drug is brought into the case, none, at any rate, beyond very general advice as to exertion, etc., advice which the patient, as a rule, is either compelled or inclined to disregard.

During the last two years I find that there have been attending amongst my out-patients at the Leeds Infirmary twenty-four cases of uncomplicated double aortic disease, which have been under treatment chiefly for breathlessness interfering with work. They have all been continuously taking tincture of digitalis in ten-drop doses, and all have derived more or less benefit from it, some being able to follow laborious occupation while under its influence. In no case was any damage done by it.

This is briefly the experience of two years, but during the last ten years it has been my invariable rule to treat all cases of valvular disease with symptoms in the same way, namely, with digitalis. Indeed, I know of no other drug which is so sure to influence the heart as it is. Strophanthus, adonidine, sparteine, and the other suggested substitutes for digitalis I have tried in efficient doses, and, I believe, with an open mind as to their merits, and have found them practically of little or no value as compared with digitalis.



Such is the conclusion to which I have come in the matter after an adequate experience in the out-patient department of a large hospital and elsewhere. Yet it is opposed to that of many other observers. Dr. Pye-Smith, for instance, says: "In aortic valvular disease, uncomplicated by dropsy or venous congestion, the action of digitalis is often uncertain and sometimes dangerous." While Rosenstein says (in italics): "But the sovereign remedy which may be used in every stage of valvular disease, with merely variations in dose, is digitalis." Dr. Balfour also says: "It (digitalis) is still regarded by many as not merely useless but positively dangerous in aortic regurgitation. And yet there is no other disease in which this drug is of more value, and no other in which its curative action can be more efficiently demonstrated than in this."

These discrepancies of opinion are, according to Dr. Henry of the Philadelphia Hospital, to be explained by considering the different stages of the disease in which the drug was administered. There are, I suppose, theoretically, three possible conditions of the ventricle in regard to its compensatory powers. It may be equal to, too strong for, or too weak for, the increased work it is called upon to perform. I have said theoretically there are these three conditions, which Dr. Henry proposes to call respectively—*eusystole*, *hypersystole*, and *hyposystole*. I would venture at once to express my opinion that such a condition as *hypersystole*—a ventricle too strong for its work—does not exist in any case of valvular disease. It is, to my mind, a contradiction in terms to speak of *over-hypertrophy*. I cannot understand how hypertrophy of the ventricle can go on at all beyond the requirements of the condition which called the process into existence, any more than the muscles of the ballet dancer's leg—to take the classical example of the text-book—can go on hypertrophying, and to such an extent, as to produce alarming symptoms after she has ceased to practise her profession. We do not know of such a thing elsewhere in human pathology. In mitral disease, for instance, no one—so far as I am aware—has described a similar condition. The bladder and the intestine supply no evidence in favour of the theory that the process of hypertrophy may go on indefinitely, and altogether independent of the cause which first excited it. It is around this, to me, hypothetical condition that much of the controversy in regard to the use of digitalis in aortic disease has turned.

I cannot better illustrate the difficulties of the position than by quoting first Sir Walter Foster, and then Dr. Hilton Fagge. Sir Walter Foster says, speaking on digitalis in heart disease: "There is one condition in aortic insufficiency which warrants its use—that of over-compensation. This is marked by violent

action of the heart, vibratory arteries visible all over the body, almost constant headache, flushed face, noises in the ears, occasional epistaxis, &c." Dr. Fagge says: In aortic regurgitation, when the hypertrophied ventricle is carrying on the circulation vigorously, digitalis often aggravates all the symptoms: "When there is dilatation of the heart (rather than hypertrophy), and the pulse is feeble, frequent, fluttering, and above all irregular, it may be given with a fair expectation that it will afford relief." What action will digitalis have on this case according to Sir Walter Foster? It would augment the ill effects of the insufficiency by slowing the action of the heart. The diminution in the frequency of the heart's beats under digitalis always means an increase of the period of the dilatation of the ventricles. "The low arterial tension may require increasing, the heart's strength may want reinforcing, but these two indications cannot be fulfilled by any remedy which, like digitalis, adds to the prime evil. The more forcibly the heart beats, and the greater the arterial tension, the greater, *cæteris paribus*, will be the reflux through the imperfect valves, and while the valvular lesion remains a constant quantity, digitalis will multiply its effects by increasing the period of its action." I have quoted Sir Walter Foster at length, not only because he is, as we see, diametrically opposed to such a high authority as Dr. Fagge is admitted to be, but also because I believe that it was mainly due to his writings in 1874 that the teachings of Corrigan on this subject were revived.

The argument against the use of digitalis in aortic disease usually takes this form. "Digitalis prolongs the diastolic phase of the ventricular cycle and so tends to exaggerate the one condition in aortic disease which is dangerous to the patient. But digitalis cannot be held to act in one way in the case of one cavity and in another way in the case of another cavity of the heart. If it prolongs the diastole of the left ventricle in aortic disease it must also prolong the diastole of the right ventricle and the left auricle in mitral disease, but, if what is generally held in regard to the condition of the right ventricle in that disease and the effect of digitalis upon it is true, this cannot be so. In short, whatever the action of digitalis is in mitral disease, it must have the same action in aortic disease. And if the dangers are the same in nature in the one case as in the other, and digitalis removes them in the one case, it must do so in the other. What we have to deal with in any case of valvular disease is, I contend, failure of the circulation from falling blood pressure, which fall is brought about by the inability of the cardiac muscle to overcome the obstacle introduced by the diseased valve, no matter whether it be in the right or the left side of the heart, aortic or mitral, or both ;



and for this failing circulation digitalis is the most efficient remedy at our disposal.

I will state my conclusions in the following propositions :—

1. In all cases of valvular disease the chief desideratum in regard to the heart itself is the condition of the cardiac chambers in respect to dilatation and hypertrophy.

2. That the presence of symptoms in cardiac disease means always failure of compensation.

3. That the condition described as over-hypertrophy or over-compensation does not exist.

4. That the dangers in aortic disease arise from the same cause as the dangers in mitral disease, namely, failure of the compensation, that is, failure of the ventricular muscle to overcome the ever-increasing work put upon it.

5. That if digitalis is safe and beneficial in mitral disease, it is equally so in aortic disease.—*The British Medical Journal*, March 12, 1892, p. 542.

## DISEASES OF THE ORGANS OF RESPIRATION.

### 19.—ON SPASMODIC ASTHMA.

By JAMES F. GOODHART, M.D., F.R.C.P., Physician to Guy's Hospital.

[The following is an excerpt from Dr. Goodhart's second Harveian Lecture.]

When I study this disease in a comprehensive way, it seems to me as nearly certain as can be that it is the direct result of cultivation, and in its worst forms often of our methods of its *treatment*. Asthma can be fostered and nursed into a very terrible disease, and often is so. And, on the other hand, I believe that much may be done to mitigate its severity, to eradicate it altogether, or, at any rate, to divert it into more general paths of explosion, if we make ourselves familiar with its history.

What is the history of spasmodic asthma? The first thing that I learn about it is that it largely occurs in those who have in one form or another a neurotic inheritance, or are themselves clearly of that temperament. I have gone over my own cases from this point of view, and this is the result. Of fifty-one cases (twenty-seven males and twenty-four females), nine only were not evidently neurotic. In eight the disease was hereditary; in ten there was rheumatism in the family; in five a pronounced history of megrim. In others I have noted the existence of diabetes and somnambulism in the relatives.

In the patients I note such things as chorea ; "a highly nervous and crotchety lady." "If anything goes wrong in business the man is sure to have an attack" ; "the attack comes on after any little excitement." A girl of seventeen had convulsions when an infant ; another young lady had hysterical aphonia and urticaria, and bad rheumatism at other times ; another patient has had urticaria, headache, and asthma.

Another point about asthma has often struck me, too—viz., how seldom, comparatively speaking, it occurs in the lower classes of society. It is chiefly a disease of the middle and upper strata—a disease, I believe, of infancy and childhood as much as of adult life, and, I would add, ought to be confined to those stages of existence.

As I look along the seven stages of human life, from its cradle to its grave, I find nothing that at first sight resembles spasmodic asthma at the early periods of life ; that is under, say, three or four years. And not finding it, and, further, not seeing any evident reason for its absence, for there is nothing in its symptoms that would betoken it was a disease of a special period, one not unnaturally scans the wide plain of infantile disease, to see if perchance from this point of view some rudiment or embryonic form of the malady can be discovered. I cannot but think that a disease is soon discovered which has points of great similarity, although wanting the most characteristic feature of the mature malady, if so I may speak of it. I mean the common gastro-pulmonary fever that any practitioner sees once or twice in every day. Here is the sort of case I mean. A little boy four years old, who comes of a decidedly neurotic stock, and who, moreover, has shown decided evidences that as was his mother in this respect so is he, is quite well on a certain day and ails a little towards night. His mother says he has got a chill ; his father knowing more of the world, perhaps, and altogether having a more critical disposition, is not so sure that the child has not over-eaten himself. Anyhow his so-called cold gets worse, a cough comes on, and he develops a sharp fever. The disease, whatever it is, quickly rolls along the bronchial tubes, and when the doctor arrives he has every appearance of being seriously ill with a sharp attack of bronchitis. To make matters worse, apparently, he is sick several times in the course of the first twenty-four hours, and at the end of that time he is still breathing rapidly and seems very ill. Within a day or two, however, the temperature drops, the acuteness of the chest disturbance subsides, and within three or four days the whole affair is at an end, leaving the little patient hardly worse than he was before the attack commenced. Now, one acute illness of this sort tells us nothing ; the disease still might be many things, and the field is left still contested. But



by-and-bye the same scene comes over again, and yet again, and the doctor at any rate grows wiser, for he learns then to know his patient's constitution, and he knows that whatever may be the *exciting* cause, the real one lies far deeper in the primordial tendencies of the child. And the experiences of general practice will tell many that I am not drawing upon my imagination in the least, but that the picture is one of the commonest that is met with in the daily round. There can be no question that these sort of attacks occur in particular families and belong to particular children ; and, they are to my mind paroxysmal neuroses, and they are the representatives in babyhood of spasmodic asthma. For some reason or other, which I shall not even attempt to guess at, the respiratory paroxysmal neuroses put on this form in infancy and early life ; while that of spasmodic asthma is characteristic of older children and adults. I think, to repeat what I said just now, that in comparison with spasmodic asthma the gastro-pulmonary fever of infancy is quite a common affection ; and well it may be, if, as I say, it is the special reaction of the infantile respiratory system to nerve storms of all sorts. But its prevalence also admits of other explanations ; one being that as the embryo nervous system grows in health and education it becomes less explosive, and thus the tendency vanishes. Another, that as development goes on other viscera come more into the field, the cyclone is drawn into other regions, and the pulmonary tract escapes.

Now, dealing first with the treatment of these infantile cases, over and over again these children have been brought to me because their proper treatment has not been rightly apprehended, because their nature has not been recognised. They have been supposed to be due to cold and chills, and the *disease* has been *treated*, and not the *patient*. But to shield these children from every possible draught, and to keep them at home when there is the least suspicion of the wind being in the east, are not the means to cure them ; such only make them worse. It is because they have been getting worse, in spite of treatment, that they are for the most part brought to me. Treatment of this kind begets a more irritable state of nervous centres, and the only way to cure them is to harden them. I need hardly go into the details of their management, they are so common sense and plain ; but, in short, they are to have their bath regularly, to be warmly but lightly clad ; they are to be taken out into the air as much as possible ; and they are, in fact, to undergo a process of hardening and education by which their nervous susceptibilities are to be made less susceptible. As regards drugs, if they have any at all, they are to be such as give tone to the nervous system, such as nux vomica and iron. The

treatment of asthma is not otherwise. You will never cure asthma by coddling. It is a local expression of an undue sensitiveness of the nervous system to the changing circumstances of its environment; a phlegmatic power of accommodation that, reacting slowly, reacts too late; and in the meantime the higher centres left unguarded by the laggard signal, and bereft of their natural protection, are stimulated too strongly, and a storm or spasm is the result. Put it in what language you like, that, I take it, is in effect what happens in spasmodic asthma. Supposing, now, that we elect to treat the disease according to the common fashion: we prescribe some local inhalation to the respiratory mucous membrane, which in some one of several ways leads to the cessation of the spasm. What happens is best illustrated, I think, by the infant, who, for each new toy, drops all its old ones; or, perhaps, by the old adage, you cannot do two things at once. The bronchial mucous membrane, stimulated by some powerful aromatic, forgets all about its previous excitement, and between the two stools the patient happily sinks to his much-needed rest. But whether stimulant or sedative, so far as regards the nervous system, the same result accrues—viz., that a sugar plum is put in its mouth and it is told not to be a bad boy again; and with the usual result—that when the sweet is gone it is soon on the look-out for another, and another it gets, and so on. In more prosaic language, the mucous surface receives a something that for the time being causes it to ignore the conditions of the environment, at which it had taken offence; but the effect of the drug having passed off, it is more alive than ever to the original discomfort, and again a spasm is set up. Again the drug is repeated and the same order is observed, and so on again, and again, and again, with, however, this important difference, that the interval between the spasmodic attacks grows shorter and shorter as the mucous surface grows more hungry. I take it that the nervous circuit from lung to brain of the old asthmatic who has been addicted to Himrod's treatment, or such similar compounds, is the exact counterpart of the nervous circuit from nose to brain of the chronic snuffer; but the pangs of the bronchia are the more urgent.

As regards children there is something else to be said. They are not quite so often as adults treated by these patent powders; but they are very generally treated by looking on the disease as the result of cold, and they are boxed up in an over-warm apartment; they are smothered in clothes; they are not allowed to have a decent romp for fear they may get hot and take a chill; and altogether they are only too liable to live a most unhealthy life. Their most saving power, that of accommodating themselves to their environment, is nursed into imbecility, and



then the wonder is that they grow worse instead of better. I would venture to point to a more excellent way than that; more excellent, because it is assuredly founded upon a physiological basis; and it is this, to find out by experiment where the child can live best. It is always a matter of experiment this; not the greatest authority in all the world can say for certain, for I say asthma is a functional disease of the nervous system, and it is in diseases of this sort that the individualism of the patient most crops up. Having found a place of residence, turn the child out to grass, in place of keeping it indoors on all doubtful days; gradually accustom it to be out in all weathers, and make it as perfect an animal as can be in these days, when conventionality is part of the air we breathe, has penetrated to the inmost recesses of our homesteads, and, for aught I know, perhaps even to the pigstye. It is difficult indeed to be a healthy animal in these days; but that is the way to cure asthma in the child, and it meets with a large measure of success. I have seen ample evidence of the ill success of the coddling method to have no doubt which is the better plan.

When we come to consider the case for adults I cannot say I am so hopeful, and one of the best evidences of its intractability is to be found in the number of patent medicines that abound for the cure of asthma. The diseases of children would not keep a quack in bread and cheese for a fortnight. The adults are the patronisers of the various cures for asthma, and who carry Himrod in their pockets and call it a cure, when all the while there never was, and never will be, a better illustration of the toils of the quack; for with each fresh whiff the sufferer is dragged deeper into the abyss of chronic asthma.

It has not been my purpose in preparing these lectures to deal in any way with the details of treatment by drugs; but I believe most firmly in the free administration even in these old cases, and at all times of life at which it occurs, of iodide of potassium and the ethereal tincture of lobelia, for the relief of the asthmatic condition, and that I feel certain that arsenic taken also in free doses, and with breaks, over a long period of time—several months—is a great help by its action on the nervous centres in preventing the recurrence of the paroxysm.

Before I have quite done let me return again to Himrod and drugs of that ilk. I have made a serious charge against them, and I do not doubt for a moment that there are those here who will abundantly confirm all that I have said. But I want to say more—viz., not only do they confirm this disease of habit; but they do more, for in the long run their repeated use leads to enfeeblement of the heart muscle, and to its dilatation; and thus they introduce serious, and often fatal complications.

Mind, I do not say they must *never* be used—I have seen too much of the distress of bad asthma to say that; but I do say, as I have heard it said of the doctor's brougham, that it is the first nail in his coffin, that when an asthmatic takes regularly to such remedies as these, they are equal to a good many coffin nails.—*The Lancet*, January 23, 1892, p. 180.

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## 20.—ON THE USE OF OXYGEN AND STRYCHNINE IN PNEUMONIA.

By T. LAUDER BRUNTON, M.D., F.R.S., and  
MARMADUKE PRICKETT, M.D.

The great prevalence of pneumonia at the present time, and the number of deaths which it is occasioning, induce us to write the present paper without further delay, although we might have wished to bring forward a larger number of cases. It is self-evident that if we can increase the oxygenating power of the air inhaled by the patients in cases where the breathing surface of the lung is diminished, we may afford great benefit, and in some cases may save life. More especially is this likely to be useful where the interference with respiration is of a temporary character, as in cases of acute pneumonia. In some such cases, where one lung or one part of a lung is clearing up, while another part is becoming involved, the question of life or death will be decided by the amount of lung available for respiration. This, again, will depend upon the comparative rate with which the inflammation encroaches on the breathing space on the one hand, and the already consolidated lung clears up on the other.

It is possible that an increased oxygenating power of the respired air for even a few hours may sometimes turn the scale in such cases. We have, unfortunately, not had final success in a case which we are about to relate, but the immediate effect of inhalation of oxygen was so remarkable—we might also say miraculous—as to awaken the greatest hope of future success.

The Rev. E. V., aged about 40, a hard-working clergyman, was attacked with influenza and pneumonia of the right base. On Saturday, June 20th, 1891, this condition was beginning to clear up, but consolidation began to make its appearance at the left base. When we saw him together about 9 o'clock on the morning of Sunday, June 21st, we found him completely unconscious and apparently moribund, his face livid, the skin cold and covered with a clammy sweat, and loud mucous rattles accompanying every respiration.



There did not appear to be the slightest possibility of doing him any good, even temporarily, and we both thought it impossible that he could live more than two hours, although we regarded the case as quite hopeless, we agreed that it was our duty to try every means of recovery. We accordingly performed venesection, and with some difficulty removed fifteen fluid ounces of blood. We injected  $\frac{1}{40}$  grain of strychnine subcutaneously, with  $\frac{1}{40}$  grain more after an interval of about twenty minutes, in order to stimulate the respiratory centre and increase, if possible, the respiratory movements.

These measures had very little, if any, effect, but, after using them, it occurred to Dr. Brunton that the inhalation of oxygen might be useful. It had already been tried by one of us (Brunton) several years ago as a means of preserving life in poisoning by serpent venom, but great difficulty was then experienced in obtaining it in sufficient quantity and in a portable form. This difficulty has now disappeared, for it can be obtained commercially in iron bottles, in which it is condensed. The utility of oxygen in this form has recently been shown by Major Elsdale, who, in an article in the *Fortnightly Review* over a year ago, described his successful employment of it in a case of poisoning by coal gas.

We accordingly procured some oxygen with as little delay as possible from Brin's Oxygen Works, Horseferry Road, Westminster, the man in charge of the works kindly supplying it to us although, being Sunday, both the works and the office in 34, Victoria Street, S.W., were shut.

The Oxygen Company supplies a mouthpiece and inhaling bag somewhat resembling that usually employed for the inhalation of nitrous oxide and ether, but we used the simpler though more wasteful plan of allowing the oxygen to steam into the mouth through a plain piece of glass-tubing attached by an india-rubber tube to the oxygen bottle.

In about fifteen or twenty minutes the patient's colour became less livid, though he was still completely unconscious. When he was next seen by one of us about two hours afterwards an extraordinary transformation had taken place. He was perfectly conscious, his colour quite healthy, and he expressed himself as feeling comfortable and well.

During our absence he had awakened, and said to a relative, "What a fine sleep I have had. I feel quite well." The inhalation of oxygen was discontinued, but nevertheless during the afternoon and evening, and early part of the night he seemed to be progressing favourably. About three o'clock in the morning his respiration again became embarrassed, and his circulation feebler, and despite the continued inhalation of oxygen we found him about nine o'clock on Monday morning in

much the same condition, though not quite so bad as twenty-four hours before. We thought that perhaps this condition might only be temporary, and that he might again improve on a freer use of oxygen, but unfortunately he died about an hour and a half afterwards.

It is quite possible that nothing could have saved him, but we regretted that we were not summoned when the symptoms became worse, as we might have possibly done good artificial respiration with oxygen. It would have been easy to keep this up, for the oxygen, being contained under pressure in the bottles, all that would have been necessary was to pack the glass tube into one nostril, and by alternately, with the finger, compressing and relaxing the other nostril, to allow the compressed oxygen either to inflate the lung or escape through the nostril. This method might be useful in other cases.—*British Medical Journal*, January 23, 1892, p. 172.

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## 21.—ON THE TREATMENT OF ACUTE PNEUMONIA.

By G. W. BALFOUR, M.D., F.R.C.P.,E.

[The following passages are taken from an interesting paper published in the *Edinburgh Medical Journal* for November, 1891.]

Certain conditions which naturally depress cardiac vigour render precarious the maintenance of a life threatened by pneumonia; these are advanced age; pre-existing disease; and preceding exhaustion, bodily or mental, from whatever cause arising. These conditions cannot be eliminated, and they must render the prognosis more or less unfavourable, especially if more than one be present. Indeed, if we delete from the death record of pneumonia all those cases in which one or other of these conditions has been present, we practically eliminate all the fatal cases. No mode of treatment that can be devised can altogether nullify the ill-effects of age, of pre-existing disease, or of exhaustion, yet even where one or more of these untoward elements are present appropriate treatment may be of essential service.

If there is one point in the treatment of pneumonia in which there is a general consensus of medical opinion, it is that when any of the conditions alluded to exist, depressing or perturbative treatment is especially to be shunned.

Once pneumonia has fairly commenced there are two morbid conditions connected with it which are supposed to be specially detrimental to the vigour of the heart: the one is excessive consolidation of the lung, and the other an excessive rise of temperature (fever).



Excessive exudation within the lung tissue impoverishes the blood, and must, therefore, act injuriously on a weak heart by enfeebling its tissue and starving its nerve-centres; but as an obstacle to the circulation throwing a strain upon the right heart it is of small moment, as the instant the temperature falls convalescence proceeds uninterruptedly, the heart making no account of the apparent obstacle.

As for the fever, a great deal has been made of it, especially by German writers, and a high temperature undoubtedly exhausts nervous energy and enfeebles muscular power, and must consequently impair cardiac vigour. But the pyrexia in pneumonia is usually moderate, and an exceptional or dangerously high temperature may be accepted as an indication of some necessarily fatal complication. Antipyretic treatment of any specially active character—such as cold bathing—is therefore much less applicable to the treatment of pneumonia than to that of other diseases where the local lesion is of a less ominous character. There is, however, one drug long used in the treatment of pneumonia which has the advantage of being both an antipyretic and also a cardiac tonic, and which from this combination seems to be worthy of some consideration.

When given in moderate doses throughout the disease, digitalis seems to be undoubtedly useful. In the first place, its antipyretic virtue probably aids in bringing about an early crisis, and in making it more decided; and in the second place its tonic action on the heart enables us to keep that organ well in hand, may possibly prevent cardiac collapse in some cases, and certainly enables us, when collapse threatens, to rouse the failing heart with less loss of time than when digitalis has not been given from the commencement. When employed in the treatment of pneumonia, digitalis seems occasionally to cause the disease to abort; but when employed in large doses in the endeavour to secure this end, it is an uncertain remedy, and may even prove dangerous. When used in moderate doses, however, either as a substantive remedy or an adjuvant, digitalis is undoubtedly of great value; it occasionally seems to shorten the course of the disease, and it not infrequently saves lives which apparently without it would be lost.

Besides those pre-existing conditions already referred to, which are so apt to determine the early occurrence of general as well as of cardiac exhaustion, there are, apart from temperature, several accessories of the disease itself which have a similar result, and which must be combatted if we desire to conduct our patient comfortably and safely through his illness. These are sleeplessness, pain, and cough; the two latter are frequently the cause of the insomnia, but sleeplessness itself is often only an indication, as it is certainly a cause, of nervous exhaustion.

Opium has long been known to relieve these symptoms, but as it has no apparent effect in checking the disease, and may produce serious symptoms by causing retention of the expectoration, it has not been much used in the treatment of pneumonia except in moderate doses. Even for the insomnia opium is not in much favour, as a large dose is always required for the treatment of this symptom; and it is not always successful, sometimes aggravating the wakefulness and producing delirium.

Chloral in one large dose of from seventy grains to two drachms has been strongly recommended as a remedy for insomnia, but such a dose is unnecessarily large and even dangerous. If called in at a late period of the disease, when persistent insomnia threatens exhaustion, and it is absolutely necessary to secure sleep as the best chance of saving the patient, the best method of administering the chloral is to give forty grains of Liebreich's chloral at once, and forty grains more if necessary every half hour till three doses (120 grains in all) have been given. A good many succumb to the first dose, a number more to the second, but I have not yet seen the patient who did not yield to the third. The patient falls into a quiet and restful slumber, from which he awakes refreshed, and not infrequently well, the sleep being accompanied by a favourable crisis.

A large dose of chloral causes a considerable, and finally a fatal depression of temperature, apparently due to a lessening of the production of heat; it is, therefore, an antipyretic. Chloral slows the heart by paralyzing the cardiac ganglia, and it dilates the arterioles by paralyzing the vaso-motor centres. Chloral also acts as an excellent hypnotic, apparently from its direct action on the brain itself; it is also an analgesic, and it diminishes and ultimately abolishes all the reflexes. It would not be easy to find another drug with a concatenation of properties so suitable for the treatment of pneumonia as those which chloral possesses, and it is not strange that it has been found most useful.

In moderate doses the antipyretic action of chloral may be but slight, but it exists, and is an action in the right direction. The hypnotic action prevents insomnia, and so recuperates exhaustion, the analgesic action aiding on the same lines. The diminution of the reflexes tends to cut short the disease; for if we regard pneumonia as a restorative reaction to an injury received, then this action of chloral may modify these reactions, and check wholly or in part the series of organic changes through which diseased action, when unmodified, must run; and this action will be specially valuable in those exhausted, and therefore erethistic, constitutions in which these reactions are most apt to be excessive and most dangerous. In this



theory of inflammation, also, dilatation of the capillaries is not without its use; the freer circulation sweeps away the stasic elements in its torrent, and the influence of the morbid stimulus gradually dies away as the normal nutrition of the part becomes fully re-established.

On the other hand, if we regard a pneumonia as due to the local action of a coccus, a bacillus, or any other form of microbe, the flushing of the part affected by a free circulation of healthy blood cannot be a matter of indifference; but by flooding them with phagocytes must tend to cut short the disease by destroying its cause.

Whether, therefore, we hold old-fashioned or new-fashioned views as to the causation of pneumonia, the treatment of it by chloral would seem to be equally appropriate from a physician's point of view; while a patient cannot but regard as both agreeable and suitable a remedy which soothes pain, stops cough, and relieves insomnia. Chloral does all this, but it does more, it really seems to shorten the duration of the disease; or, as we may put it, to favour an early crisis. Having seen pneumonia treated in almost every imaginable manner, from large bleedings to coloured water, I have no hesitation in saying that, so far as I am capable of judging, the treatment of pneumonia by chloral is that which gives the patient most relief from his sufferings, which more than any other favours an early crisis, and which appears to have no tendency to increase the mortality, if it does not indeed diminish it, which would be difficult to prove.

I always give in pneumonia chloral—Liebreich's chloral, none other is safe—dissolved in infusion of digitalis. The dose of chloral and of digitalis must vary with the age of the patient: for an adult I prefer to give for a first dose twenty grains of chloral in half an ounce of infusion of digitalis, the subsequent dose being ten grains of chloral in half an ounce of infusion of digitalis every four hours, continued till the temperature falls to normal, then to be replaced by some appropriate tonic. After the first dose, if it be one of twenty grains, or after the second or third dose, if we begin with ten grains, the pain and cough cease, the patient doses all day and sleeps sound during the night; the rusty glutinous sputa either cease entirely or become changed to a scanty mucous phlegm easily expectorated, the pulse drops, the temperature falls, the disease is arrested, and the patient gradually convalesces. A jacket poultice is a useful adjuvant, which may be, however, very advantageously replaced by a sheet of cotton wool. An appropriate diet cannot, of course, be dispensed with. — *Edinburgh Medical Journal*, November, 1891, p. 395.

## 22.—THYROTOMY IN CHILDHOOD FOR THE REMOVAL OF LARYNGEAL GROWTHS.

By P. H. MULES, M.D., Surgeon to the Altrincham Hospital.

The treatment of laryngeal growths is a special subject rather than one of general surgical interest, yet no surgeon should be unprepared to attack a condition which must, from its nature, prove of serious or even rapidly fatal import, and this is the reason why I have sought space to place on record such details of the operation of thyrotomy as I have found useful, and are not present in surgical text-books.

The special manipulative skill required to remove growths by the intralaryngeal methods can only be attained by the constant practice of throat surgery, but when the case has passed into the domain of general surgery by requiring an operation through the skin and cartilages, then it has to be treated on well recognised lines, requiring only such manipulative skill as it is in the power of general surgeons to acquire.

It may be accepted that no growths removable by intralaryngeal operation should be subjected to extralaryngeal attack, but when it has been definitely decided that a growth is present and cannot be removed by intralaryngeal operation, it is for further consideration whether the urgency of the symptoms demands that the growth should be removed at once, or whether tracheotomy should be performed as a tentative operation, in the hope that the quiescent state of the larynx, or its altered conditions, may induce its recession. A preliminary tracheotomy is undoubtedly of great benefit, and, if successful, not only restores the tone and condition of the child, but palpably reduces the risk of thyrotomy by allowing the surgeon to select his own time for the major operation, as well as showing him the recuperative power of his patient.

The time allowed to elapse between the tracheotomy and major operation must be governed by various circumstances—primarily, the increase or otherwise of the growth, as well as the condition of the patient. With an increasing growth, the sooner it is removed the better. With a stationary growth, means for its absorption may be fully and freely tried, notably arsenic in full doses. With a receding growth, time must be given to perfect the cure.

Having decided that the growth is to be removed by thyrotomy, and a tracheotomy having been performed some weeks previously, the child is to be anæsthetised through the tube, chloroform being preferable. An oxy-hydrogen lamp—in this climate a necessity—is to be ready at the call of the operator, as well as a small concave mirror and an object lens of



4 in. focus to reflect and concentrate light on various points. A fine small piece of Turkey sponge threaded with silk, to plug the trachea down to the tracheotomy tube, is preferable to Trendelenburg's tube, as it leaves no clot ; both may be used if desired, but Trendelenburg's tube is difficult to insert through a small tracheal opening, and is not necessary. Four or five pieces of sponge, cut square and also threaded, to plug the larynx and arrest the oozing during removal of the growths ; a small electric cautery, such as is used for the cornea ; and cutting laryngeal forceps complete the list of extra appliances.

After the child has become unconscious, the head is to be well drawn back over a wine bottle filled with warm water and covered with flannel. An incision through the soft parts is to be made exactly in the median line, so as to expose the thyroid cartilage—which in the child is very small—care being taken that the skin wound is long enough to give easy access to the deeper parts ; cut with a sharp scalpel through the thyroid cartilage, from the notch down to two rings of the trachea. It would be well to avoid entire section of the cartilage ; but the size of the larynx—no larger than a hazel nut—makes it impossible to explore the interior unless the cartilage is divided. Introduce the retractors and plug the trachea down to the tube with the soft sponge already prepared.

Next remove each growth separately with the cutting forceps, and plug the larynx from time to time as required to arrest the oozing, and touch each bleeding point with the cautery. After all the growths have been removed and the plug drawn out, unite the cut cartilages by one suture of fine silver wire through the centre of the cut edges to remain permanently, and the soft parts by four or more passed through the inner edges of the sterno-mastoid, the deep fascia, and skin, to be removed on the third day ; dust with iodoform, and dress with sal-alembroth gauze ; place the child in a tent bed, and treat as after tracheotomy. The case, if it does well, requires only the simplest dressing.

Such was the treatment adopted in the case of a fragile female child, aged four years, from whom were removed twenty-five separate papillomata which had completely blocked the larynx, and who made an excellent and rapid recovery, running about the ward on the tenth day.

The prognosis in these cases must be doubtful, time alone determining the success or otherwise of the operation.

In conclusion, I would urge the necessity of sufficient skilled assistants. I was fortunate in having the assistance of my colleagues, and we all felt that no man would be justified in attempting such an operation short-handed. — *The British Medical Journal*, February 27, 1892, p. 432.

## 23.--THE ETIOLOGY OF ACUTE PLEURISY WITH EFFUSION.

By GEORGE G. SEARS, M.D.

Of the five cases which are here briefly reported, I have been very kindly allowed to refer to the Records of the Massachusetts General Hospital for the early history of three; while this list could have been easily extended, the five which have been selected illustrate sufficiently the more recent views of the etiology of acute pleurisy with effusion, to serve as a text for its discussion.

Mrs. J. M., aged thirty-six, family history good. In May, 1890, had an attack of pleurisy with large serous effusion for which she was twice aspirated. Nine months previously she had overtaxed herself by nursing a sister-in-law who was in the last stages of consumption, and since then had had, at times, a short hacking cough of which she had thought nothing. She recovered sufficiently to perform her household duties, but died a year later of phthisis.

M. H., aged twenty-one, family history unknown, had an attack of pleurisy with effusion, requiring aspiration, in the spring of 1888, from which he entirely recovered and resumed work. In September of the following year, phthisical consolidation of both apices was found.

M. B., aged twenty-one, of good family history, entered the Massachusetts General Hospital in June, 1876, with an effusion completely filling the left side, which he attributed to a strain. Six weeks later he was discharged well, and resumed his work, that of a stevedore. Six years later he died of phthisis after an illness of over a year.

S. V., aged fifteen, entered the hospital in 1885 with a slight effusion into the left chest following exposure to cold. He had had a slight attack of pleurisy the previous winter. After three weeks he was discharged well, but died four years later of consumption in California, where he had been sent for his health.

Annie L., aged twenty-two, entered the hospital in 1890. Three years before she had had pleurisy with effusion, for which she was aspirated. At the time of entrance well-marked signs of phthisis were found in the lungs, and she was suffering also from ascites, which was ascribed to a tubercular peritonitis. Five weeks later she was so much improved that she was discharged. When she again came under observation, six months later, the pulmonary lesion had advanced and bacilli were found in the sputum, but abdominal examination was negative.



With the exception, perhaps, of the first case, where the possibility of infection or contagion at an earlier date cannot be excluded, the disease came on suddenly in previously healthy individuals, some of whom were without hereditary taint, ran an acute course and ended in apparent recovery, the patients resuming their ordinary occupations. Later, at periods varying from a few months to a few years, phthisis manifested itself. It is to be regretted that the tubercular or non-tubercular character of the process cannot be definitely settled by an examination for bacilli as in other diseases in which such a suspicion exists, but they have been unsuccessfully sought for with the microscope by Ehrlich, Fraenkel and others in some cases of undoubted tubercular origin, while inoculation and culture experiments have proven equally fallacious. Direct evidence is not, however, altogether wanting that primary tubercular inflammation of the pleura may exist. Vaillard's and Kelsch's cases are very strongly corroborative, but are not quoted here as objection has been made that the bacilli were not sought for. The same criticism cannot be made to two cases reported by Lauth, in both of which the disease was similar to phthisis, but the autopsies showed tuberculosis of the pleura without previous involvement of the lungs. It cannot be considered positive proof of the tubercular origin of certain cases that they have been followed by consumption after the lapse of several months or years, nor, on the other hand, can its connection with tuberculosis be denied where complete and lasting recovery has taken place. The prognosis in all tubercular affections has been recently so thoroughly modified that cure is expected in a considerable proportion of cases. König, for example, found that out of 131 cases of tubercular peritonitis which he had collected, 30, or about 23 per cent., remained well from two to twenty-five years after laparotomy, and it seems still an open question if this has not shown, by proving the diagnosis, rather that tubercular peritonitis can be recovered from, than that the operation is in itself always the cause of recovery.

If it could be shown that in a large number of cases a much greater proportion dies of tubercular disease than could be expected from the general average, strong presumptive evidence of the connection between the two diseases would be furnished and the probability of the tubercular origin of pleurisy be strengthened. Such evidence I have endeavoured to procure by collecting all the published series of cases of any considerable size which I could find in the literature of the subject. These have not been very numerous, and are not free from several sources of error. Some of the reporters have made no distinction between dry pleurisy and pleurisy with effusion, or have included in their list cases which were secondary to pneumonia, measles

or other infectious disease, as well as cases which were under observation too short a time. Such errors might, in a measure, balance each other, but Fiedler's figures, whose original paper I have not seen, are so one-sided, that he would seem to have included cases in which the effusion occurred in an already well-established tuberculosis of the lung. A striking point in these statistics is the wide variation in the experience of the various observers. Blakiston reports 53 cases which had remained well for several years. Austin Flint, 47 cases with three possible instances of subsequent tuberculosis; out of 21 cases reported by J. P. Bramwell, three only died of tubercular disease. Coriveaud had but four deaths from this cause out of 27 cases, one of whom he had followed twenty-five years and one fifteen. On the other hand, V. Y. Bowditch found in 90 cases occurring between 1849 and 1879, that 32 had become consumptive. Barrs, out of 57 cases occurring between 1880 and 1884, found that 21 at the time of his report (1890) had already died of pleurisy or some well-recognised tubercular disease, mainly phthisis, and of 44 cases treated by Böcher, 32 presented later manifest symptoms of tuberculosis of the lungs. Fiedler, quoted by Sée, says that of 112 cases of pleurisy treated by thoracentesis, but 21 recovered; of the 91 other patients, 25 died of phthisis either at the hospital or their homes; 66 recovered from the pleurisy, but were found later to be victims of confirmed phthisis or other tubercular disease.

Four hundred and fifty-one cases are here mentioned, of which 176, or about 39 per cent., developed phthisis or other well-marked tubercular affection. Couston and Dubrulle, from their army experience, say that all soldiers who have suffered from pleurisy are no longer fit for military duty, and that a majority die later of consumption. An exactly opposite opinion is held by Blachez, who mentions an epidemic of pleurisy many years ago without the subsequent development of pulmonary disease in a single case. Westbrook, Vickery, and others have reported cases which were followed by phthisis, and from a review of the recent literature there seems to be an increasing tendency to ascribe to the tubercle bacillus a more and more important rôle in the causation of pleural effusions, but as the pendulum of medical opinion is proverbial for the length of its vibrations, it is fair to ask if, in the present instance, it is not tending to swing too far in this direction. The frequent occurrence of pleurisy as a complication of pneumonia, rheumatism, measles, and other infectious diseases, where no doubt exists that it is the same in origin, suggests the question, if so-called idiopathic pleurisy may not at times be due to the same causes, which for some reason affect only the pleura, a question which the discovery of the pneumococcus in pleural effusions, not secondary



to pneumonia, goes far toward answering, while the reported curative effect of salicylic acid in many cases suggests its being at times a local manifestation of rheumatism. From any series of cases similar to that given above, a certain number must be deducted for those who would have developed phthisis in the natural order of events without the incidence of a previous pleurisy, while the part which a latent tuberculosis of the bronchial lymph glands may take in the subsequent onset of a more general process must also be considered, as has recently been emphasised in papers by H. P. Loomis and Northrup. Of 91 autopsies on tubercular patients collected by the latter from the records of the New York Foundling Asylum in which conclusions could be drawn as to the primary seat of the lesion, in 88 it was situated in the bronchial glands, which in nine cases had already advanced to a state of cheesy degeneration, while the lungs showed only a beginning tuberculosis. In 13 cases, most of which had died from acute infectious diseases, they were alone affected. Loomis inoculated rabbits with material from the bronchial glands of 30 adults who had died either suddenly or after an acute disease, and found that in eight cases active tubercle bacilli were present, although there were no other traces of tuberculosis. There can be no doubt that the unfortunate possessors of such glands are constantly exposed to the dangers of a general infection, which may occur whenever proper conditions are found for dislodging the bacilli and setting them adrift in the general or pulmonary circulation. Such conditions would seem to be well satisfied in acute pleurisy with effusion where a shower of bacilli might be washed out by the large amount of fluid which, in process of absorption, must pass in part, at least, through the lymphatics. Ulceration of the degenerated glands might also be set up by the sudden increase in their functional activity. Such a theory would explain the onset of a general miliary tuberculosis following the rapid absorption of an effusion as in the cases reported by Litten, Troisier, and others. In other cases where months may pass before phthisis is recognised, it is possible that the dislodged bacilli may remain quiescent or develop so slowly as to cause no special symptoms until some further impulse is given.

In conclusion, it can be said that a very considerable proportion of cases of acute, apparently idiopathic pleurisy with effusion, is followed by pulmonary phthisis. In a part of such cases the pleurisy is doubtless of tubercular origin, and is its earliest expression, just as hemorrhage may be the first system and not the occasion of pulmonary phthisis, while of the cases which remain permanently well, in view of the spontaneous recovery of tuberculosis in other situations, it is fair to assume that a certain proportion is due to the same cause, the process

remaining local. In others, though itself benign, pleurisy may be the cause of grave disease by dislodging the bacilli from their comparatively harmless position in the bronchial glands, or by crippling the movements of the lung favour the development of phthisis. Whatever may be the relative importance of these processes in inducing the same result, the deductions to be drawn as to treatment are sufficiently obvious and should lead to the greatest care during convalescence to protect the patient so far as possible from danger by building up his powers of resistance, while the expansion of the lung should be aided by early, and if necessary, repeated aspiration. Equally obvious, for both prognosis and treatment, is the necessity for frequent careful examination of the lungs themselves as well as a bacillary examination of the sputum, lest in the greater interest of watching the daily changes of the fluid the beginning of a more serious condition may be overlooked.—*The Boston Medical and Surgical Journal*, February 25, 1892, p. 192.

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## DISEASES OF THE ORGANS OF DIGESTION.

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### 24.—ON FOLLICULAR PHARYNGITIS.

By JOHN WYLLIE, M.D., Physician to the Royal Infirmary,  
Edinburgh.

It appears, as the result of recent observation, that this affection is, in its slighter degrees, exceedingly common. Schech goes so far as to say that there is scarcely a grown man who is quite free from some amount of granular change in the pharyngeal mucous membrane. Children, up to the age of twelve, are generally free from it; and the female sex also enjoys comparative immunity.

Among the predisposing causes, are certain constitutional states, such as scrofula, heart disease, and the state of constitutional weakness that sometimes follows an attack of one or other of the acute infectious diseases. It is common among persons engaged in occupations that expose them to the respiration of a dusty or impure atmosphere. It is common, also, in those who exercise their voices professionally; more especially in clergymen and in military officers—being in the latter produced by straining of the voice in shouting commands. It may thus either be originally produced by overstraining of the voice, or, having been produced otherwise, be aggravated by it. Other causes, which seem capable of exciting or aggravating the affection, are the habitual use of tobacco in smoking or



snuffing, and the use of hot spices or condiments with the food, or of irritating drinks such as alcohol. It will here be unnecessary to give a detailed description of the appearances in follicular pharyngitis, but it may be said briefly that three forms of the affection have been distinguished, viz., (1) the simple Hypertrophic, (2) the hypertrophic with excessive secretion, (3) an atrophic form, which seems to be the outcome of the hypertrophic ones. In the hypertrophic forms, rounded granulations, or elongated elevations, or extensive patches of thickening are visible on inspection ; and these, on microscopic examination, are found to be made up of hypertrophied mucous glands, with surrounding infiltration of lymphoid tissue. In the areas of hypertrophy, the orifices of the mucous ducts are often observed to be widely open ; and, from these openings, in the form of the affection that is attended with increased secretion, whitish masses or shreds of secretion may depend. In the atrophic form, the mucous membrane in the atrophied parts is thin, smooth, and dry.

When the condition is well marked, the patient complains of a constant irritation at the back of the throat, as if some foreign body or irritating particle were lodged there. He is constantly hawking or clearing his throat to get rid of this irritation ; and he may be rendered so miserable by it as to become hypochondriacal, or even sometimes, suicidal. Cough is also frequently excited ; and, as the inflamed surface may bleed, hæmoptysis may occur. Besides cough, another result of reflex irritation is spasm of the glottis ; which, however, is met with only in a very small proportion of the cases.

To the professional voice-user, one of the most serious of the symptoms is the hoarseness that attends upon this affection. This may exist without direct involvement of the larynx in the inflammatory change, as has already been explained ; but there is no doubt that in some cases the disease extends into the larynx ; and that in others the constant coughing and clearing of the throat overstrain the larynx, and, by exciting congestion and catarrh in it, tend materially to aggravate the hoarseness.

In treatment, the general health should be attended to. The use of tobacco and of stimulating foods and drinks should be forbidden. Prolonged rest should be given to the vocal organs, and the inflamed parts should be treated locally. For the local treatment of slight cases, sprays have been found of great service. A two per cent. solution of bicarbonate of soda, or bicarbonate of potash, or a solution of chlorate of soda may be used in this way ; or, with the view of soothing irritation, a four per cent. solution of bromide of potassium. For more severe cases, Schech speaks highly of Mandl's iodine solution,

which is made up of iodine, iodide of potassium, glycerine, and oil of mint. If a good result be not obtained from these measures, the granulations may be destroyed individually by means of escharotic paste, or by the actual cautery. Mackenzie prefers to apply to them the escharotic London paste, by means of a wooden spatula. Schech and others cauterize them with the galvano-cautery. Sajous prefers to use, for this purpose, the end of a thick wire, heated to redness over a spirit lamp. Of course such energetic treatment should be undertaken only by a skilled surgical specialist. All the authorities are agreed as to the efficacy of such energetic local treatment in cases that without it would be incurable.

The atrophic form, pharyngitis sicca, is not so amenable to treatment as the hypertrophic one. All that can be done is to keep the parts clean and moist, by means of nasal douches and oral sprays : the sprays that are preferred being those of warm milk, mucilaginous decoctions, one per cent. solution of common salt, sulphur waters, etc. The nasal cavities often require special attention in such cases, as the disease is apt to involve the walls of the naso-pharynx.

Michel has lately written an interesting paper as to certain slight morbid conditions that are apt to damage the voice in singing, by interfering either with the contractions of the palato-pharyngei muscles, contained within the posterior pillars of the fauces, or with the free movement of the velum palati. He holds that the palato-pharyngei muscles, acting in association with the thyro-hyoid, sterno-hyoid, crico-thyroid, and others, assist in shaping the rima glottidis for the production of high notes ; and that anything interfering with their free contraction will therefore have a damaging effect upon the power and purity of the voice. Anything interfering with the free elevation of the velum palati tells injuriously upon the voice by interfering with the action of that part in its function as a resonator. Among the slight conditions that interfere with the action of the palato-pharyngei muscles, he enumerates a paretic condition of the soft palate, adhesions of the tonsil to the posterior pillar of the pharynx, the growth of tonsillar tissue in the substance of the posterior pillar, and the presence of follicular granulations upon the surface of the posterior pillar. In treatment, he divides adhesions of the tonsil and removes tonsillar growths and follicular granulations by means of the galvano-cautery, and endeavours to restore the muscular power of the velum by gymnastic exercises of it. Besides paresis of the soft palate, he mentions hypertrophy of the naso-pharyngeal tonsil as another condition which may interfere with the upward movement of the velum. He recommends removal of the hypertrophied texture.



A question that has engaged the attention of many writers on voice-production is—How is it that, of all professional voice-users, clergymen are the most affected by follicular pharyngitis? The answer given by these writers almost always is, that in preaching, more than in other forms of public speaking, the voice is apt to be used in a strained and more or less unnatural manner. Dr. Hullah teaches that the public speaker should find what is the most natural and easy pitch for his speaking voice, and that he should use this pitch in his public speaking.—*Edinburgh Medical Journal*, December, 1891, p. 512.

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## 25.—ON THE TREATMENT OF GALL STONES BY LARGE DOSES OF OLIVE OIL.

By JAMES F. GOODHART, M.D., F.R.C.P., Physician to Guy's Hospital.

It is now many months ago since I read the suggestion—made I forget now by whom—that olive oil in large doses was a good remedy for gall stones. The *rationale* of its action was said to be that by its administration fatty acids were allowed to form, and thus the cholesterin, which forms so large a part of these concretions, was kept in solution, and possibly also was redissolved again after having been precipitated. All this seems reasonable, and in the last twelve or eighteen months I have recommended it frequently on these hypothetical grounds, and of such of the cases as have come more immediately under my own notice I will now give a short note.

*Case 1.*—A man of 28 years was admitted, under my care, into Guy's Hospital on January 28th, 1891, for jaundice and pain in the abdomen. He had always been liable to bilious attacks, and fifteen months before he had a series of attacks of pain in the right side of the abdomen, which used also to run over to the left side, and into the back. They were not bad enough to send him to bed, and they passed off leaving him well: they were unaccompanied by any noticeable jaundice. In January, 1890, he got influenza, and noticed then that his motions became white, and thinks he got a little yellow too, though he generally noticed that when he had his bilious attacks he got a little yellow. These attacks consisted of headache and sickness, relieved by blue pill and black draught. Five weeks before admission he began to be troubled with the old pain, which gradually became more intense, and ultimately his medical man was compelled to give him an injection of morphia under the skin. At the same time as the pain came on he became

jaundiced, and had remained so. He was seen by two medical men, who both thought the case gall stones, although none had been found in the evacuations. He had had no recurrence of pain since the injection of morphine.

He had well-marked jaundice on his admission, the conjunctivæ being very yellow as well as the mucous membranes. On palpitation of the abdomen, he kept the upper belly of the right rectus very rigid: that part was tender: and an ill-defined fulness, with a rather knotty feeling, was detected. The urine contained bile. He was put upon olive oil treatment, having at first an ounce and a half; after two days this was increased to two ounces three times a day. This he continued till he left us. For the first two or three days the jaundice rather increased in intensity, but on the eleventh day it was noticed to be disappearing; he took his food better, and the indigestion did not trouble him so much. He also within this period, began to pass motions with more colour in them, but in this respect he had a relapse after three or four days, and they again became quite white. On the twenty-sixth day after admission it was noted that he was still jaundiced, but he then began to pass olive green fæces; two days later they became of a yellow tinge, and in two days more he left the hospital, passing plenty of bile in his evacuations; all the tenderness over the liver and evidences of enlargement had disappeared.

*Case 2.*—A woman, aged 38, was admitted to Guy's Hospital on March 1st, 1890. Five years before she had suffered first from acute pain in the right hypochondrium and had at the same time vomiting, jaundice, dark urine, and clay-coloured evacuations. This attack lasted on and off three months. No gall stones were found, although carefully searched for. Twelve months later another attack, and a severe one, came on and lasted fourteen days. Since then she had had slighter attacks at intervals, but no gall stones had ever been found. On January 16th she had another sudden attack, with all the usual symptoms. After a fortnight she had a second, lasting fourteen hours, and since then less severe attacks, but at intervals of two or three days had had pain lasting two or three hours. She had been in bed all the time, and had wasted rapidly. She was admitted jaundiced, very weak, constantly sick, bringing up bile-stained mucus. Nothing abnormal could be felt on examination of the abdomen, but as the whole history of the case made it almost certainly one of gall stones, she was ordered a pill of half a grain of opium, and a quarter of a grain of belladonna to relieve the pain, and she was put at once upon two ounces of olive oil every six hours flavoured by two drops of oil of cinnamon and a little syrup. This made her feel at first rather sick, but she kept it



down. She had no further return of pain, and eighteen days after her admission bile began to appear in her evacuations, and she left well after a month in the hospital. This patient took eight ounces of olive oil daily for twenty-three days, and although the fæcal evacuations were repeatedly examined, on only one occasion was there any appearance of fat in them. On this once there were small white or yellowish masses.

*Case 3.* This case I was consulted about, but I have not seen, so I give it in the words of my friend, Dr. Boothroyd: A poor woman had had several attacks of gall stones in a few months. I do not think that she had passed the stone that had troubled her; it seemed every now and again to give her pain for a little time and then retreat. Her last attack, about a fortnight before, was followed by deep jaundice which, however, had almost cleared up. There had never been absolutely white stools. Dr. Boothroyd was inclined to send her into the hospital to have the gall bladder explored, for although the pain had passed off, there remained as a persistent condition some tenderness about the gall bladder. This was on August 6th, and I wrote asking him to try the olive oil treatment, and to let me know the result. He wrote on September 14th that the patient had taken six ounces of oil every day for five weeks most conscientiously, with the result that her general nutrition and comfort showed great improvement. He had seen her a day or two before, after a fortnight's interval, and was much struck by her improved condition. She had been able to discover no stones in her evacuations.

*Case 4.* A woman, aged fifty-three, had had a good deal of mental trouble for the year preceding her illness. Two months before I saw her she had been taken suddenly with violent pain in the right side and vomiting; and on examining her, Dr. Dixey had found an enormous liver and gall bladder. Jaundice supervened three days afterwards. In the next two months she had repeated attacks and she lost fourteen pounds in weight. She was decidedly jaundiced, and had a large cystic swelling on the right side of the abdomen, which I had no doubt was a largely-distended gall bladder. There was also some enlargement of the liver. Opium and belladonna were given to allay the pain, and she was directed to swallow as much olive oil in the course of the day as she could to "help to dissolve the stone." I did not see her again until six weeks had passed. She had taken the oil, and at first as much as an ounce and a half three times a day; latterly she had not taken quite so much. I could not say that she was any better, for she had never gone longer than a week without an attack, and she had lost six pounds in weight. In another six weeks she had lost another four pounds, and, considering her age, I began to think

about cancer, and talk about an exploration, more particularly because she had had some severe attacks of colic, and one even so late as the day before I saw her. There was still great enlargement of the gall bladder, and I may add that the swelling was on this and on a former occasion so freely movable and so easily manipulable between the two hands, and went so much into the right loin, that had I not had the case under observation at former times I think I should have said that it was a movable kidney, with some enlargement of the liver superadded. I told her still to persevere with her treatment. She had been taking of late some sulphur to keep the bowels open, and possibly to act upon her liver as well; she was having some chloride of ammonium, and taking as much oil as she could. Three months later she came to show herself. She had been quite well since her last visit. Her jaundice had gone, and so had all the abdominal swelling, and she had gained twelve pounds in weight. This was a year ago, and I hear that she is now well.

With reference to the results first, I wish to say that it is obvious that I cannot claim for these cases anything more than a suspicion in favour of the value of the administration of oil. In no one of the cases have gall stones been proved to be passed, and in none of the cases has the improvement been so immediate that effect and cause certainly go together. There can be no doubt that the cases were cases of gall stones, and the mere fact that none have been found in the evacuations weighs very little, in my opinion, against the clinical symptoms. The examination of stools for concretions of this sort is not a pleasant job, and is seldom done with that thoroughness which would make it of real value as a test. And then, further, there is the nature of these concretions to be considered; an organic substance like cholesterin is a very different thing to deal with, to the oxalates, the phosphates, the urates of renal calculi. And if we can suppose that gall stones are capable of solution, it is probable that they are so with a correspondingly greater readiness.

One could not, however, expect that their solution is an immediate affair, for it is impossible in the human body to apply a solvent with such readiness and in such quantity as to act except imperceptibly, since it has to filter through all sorts of channels and undergo all sorts of changes. These cases did well. The only question is, Did they do well as the result of patience and of Nature's perfect work, or did they owe some of the success to the administration of olive oil? So far as they are concerned this must be an open question; but inasmuch as others have recommended the use of oil, and have thought it acted beneficially, I think I may add these also as helping to corroborate its value.



*Difficulties.*—One might have supposed that there would be some difficulty in getting people to take any considerable quantity of olive oil. And, as a matter of fact, it does make some feel sick, and in one case it caused diarrhoea, but in none have I found any insuperable difficulty, and this statement applies to several others besides those reported, but of which I have no notes complete enough to allow of their insertion. In hospital I have slightly emulsified the oil, and it has been taken as a dose, but in the better class people I tell them to take it with mashed potato, or spinach, or salad, or even with some kinds of fish; and, indeed, there are several ways of taking a fair quantity of oil with food without in any way disgusting the patient.

*Digestibility.*—This is a very important point. In hospital patients I have repeatedly examined the evacuations, and have been surprised to find that there was no appreciable excess of fat in the stools. Once there were little opaque masses of fat, but in none of the others could I say that any excess existed. In other words, the fat that was administered was digested.—*British Medical Journal*, January 30, 1892, p. 220.

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## 26.—ON ULCERATIVE COLITIS.

By WILLIAM DYSON, M.D., Physician to the Sheffield General Infirmary.

Some have applied the term ulcerative colitis to those cases which pass mucous casts of the bowel, or large masses of stringy mucus. I think this is a mistake. This class of cases is mostly met with in middle-aged women, and in children. Though somewhat tedious it often goes away with appropriate dieting and simple treatment of the colonic catarrh on which it depends.

*Case 1.* E. H., æt. 39, a traveller, was admitted to the Infirmary on July 30th, 1890. His illness began a year previously with weakness and loss of flesh. He had psoriasis on arms, legs, and abdomen, for which he had taken a great deal of arsenic. He was in the Horse Guards in 1874, never lived abroad, never had syphilis, and was not addicted to alcohol. For some weeks previous to admission he had suffered from severe diarrhoea and pains in the bowels, but was not subject to diarrhoea, and he had never had dysentery. His temperature was  $100\cdot4^{\circ}$ , pulse 100 on day of admission. He had suffered from insomnia for 4 years, was a very tall, well-made man, but emaciated and very sallow and anæmic, urine normal. Heart and lungs healthy, nothing abnormal to be felt in the abdomen, some slight tenderness in left ilio-lumbar region. The day

after admission the temperature rose, he had two loose motions with pain in the abdomen, the motions were ochre-coloured, liquid, and offensive.

On August 3rd, a severe attack of epistaxis, temp.  $103^{\circ}$ , nares had to be plugged and strong astringents administered. After this temperature gradually falls but diarrhœa continues.

9th.—He had seven motions of the same character as previously described accompanied by colonic pain and some tenesmus. Associated with this was some vomiting which called for treatment.

14th.—Another bad attack of epistaxis, temp.  $99^{\circ}$ .

18th.—Mild levico-water was prescribed.

24th.—Patient appeared improved, temp.  $98.4^{\circ}$ , no pain, no sickness. Diarrhœa better. Was allowed fish, fowl, or chop, port wine  $\bar{z}$ vi. Strong levico-water was prescribed.

Improvement continued for a few days but on August 29th, diarrhœa and pain returned, and continued to the end of the illness. Motions continue of the same kind, more pain and tenesmus, put back on milk diet, arrowroot, &c.

September 6th.—High temperature and diarrhœa persist, strength failing. Brandy  $\bar{z}$ vi.

14th.—The rectum which had previously been examined but with negative result, was to-day gently examined with the finger. The upper part of the rectum was found severely ulcerated and raggy, and very tender to examination. This was followed by severe and immediate diarrhœa and some bleeding, the blood being bright and unmixed with the motions. Very little or no blood had been previously observed. Temperature to-day sub-normal, and continued so to end of illness.

Astheniæ progressed, diarrhœa relentlessly continued, and he died on September 26th, nearly two months after admission to the Infirmary.

*Autopsy* next day. The colon was found severely ulcerated. The ulceration begins about the middle of transverse colon and extends to within about two inches from the anus. The lower part of the ulcerated area had a horny thickened feeling, the ulcers were very irregular in shape, coalescent, leaving islets of inflamed mucous membrane; a few of the ulcers were very round and had a pinched out aspect, the depths of the ulcers varied, some going down to the peritoneal coat. One oval one in the transverse colon had an extremely thin base. Here and there, there was some undermining, especially where there was much coalescence. No other disease was found anywhere in the body.

The treatment of the case consisted in careful dieting, liquid food, farinaceous gruels, brandy, port wine; astringent medicine in almost every form, all of which for a day or two gave some relief, but then failed; opium and morphia in various forms.



*Remarks.*—This case seems to be one of simple ulcerative colitis, similar to those collected and described by Dr. Hale White in Guy's Hospital Reports, to whom we are indebted for much valuable information on this subject. The case illustrates the salient features of this class of case; a middle-aged man; the disease lasted severely for about two months, the pain was abdominal, sometimes relieved by diarrhœa, constantly recurring diarrhœa uninfluenced for any length of time by treatment. The motions were fluid, fæcal, contained little or no mucus, and latterly blood, which was not mixed with the motion. The aspect was peculiarly sallow, suggestive at times of liver disease, at other times of malignant disease. The progressive emaciation and asthenia in spite of skilled nursing and diligent treatment. The temperature, too, occasionally rose, but it was often normal or subnormal. Death from collapse or asthenia seems common. The post mortem appearances are much as have been described, and it is significant to note that no other disease could be found anywhere else, not even in the small intestine. The prognosis of such cases, as in this case, seems hopelessly bad. The question of washing out the colon with water, or with medicated solutions (nitrate of silver, or sulphate of copper) was entertained, but it was not considered safe, and when I saw some of the ulcers post mortem, I think it is likely that the proceeding would have probably been followed by perforation and peritonitis, a complication which happens spontaneously in some cases of this fearful disease.

I have seen several other cases in which I have made the diagnoses of simple ulcerative colitis, all began with severe fæcal obstruction in the rectum, and were followed by the symptoms above described, and death in three months. Another was diagnosed as malignant disease, but none could be made out, and the diarrhœa, pain, and bleeding, the sallow appearance, and death from asthenia in two months' time strongly suggested colitis. No post mortem could be obtained in either, both were males, one æt. 70, the other æt. 62. I could not get any clue to the cause of the disease in the patient whose case I have detailed, and so far no special causes have been assigned, except such as are likely to produce ordinary catarrhal inflammation.

*Case 2.*—G. W., æt. 56, steel worker, was under my care for twelve weeks in the Infirmary, and after leaving the Infirmary was lost sight of. He had had diarrhœa for twelve months. His family history was good. His occupation exposed him to great and rapid changes of temperature, and he attributed his disease to that. He began with severe pain on left side of his abdomen, and severe diarrhœa, the diarrhœa has continued ever since. The motions were very liquid, offensive, often contained gelatinous lumps of mucus, and occasionally a little pus and

blood. The mucoid masses were examined by Dr. Kerr, and found to consist of mucus, a few blood capsules, fat cells, bacteria, and granular débris; clinically, his other organs seemed normal. He got weaker and weaker while in hospital, and wasted very much. The long continuance of this case, the presence of mucous masses with blood and pus in the motions rather point to follicular ulceration than simple ulceration. The tongue was red and glazed. No sickness, and no vomiting. The treatment consisted of opium and astringents.—*Medical Press and Circular*, February 17, 1891, p. 152.

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## DISEASES OF THE URINARY ORGANS.

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### 27.—A SIGNIFICANT FACT IN THE DIAGNOSIS AND INTERPRETATION OF THE ALBUMINURIA OF ADOLESCENTS.

By CLEMENT DUKES, M.D., Physician to Rugby School.

The significant fact, which has proved a valuable means of diagnosis to me, and which, I think, throws a vivid light upon the interpretation of these cases, has occurred in my practice with sufficient frequency during the last year or two to be unmistakable. I proceed to explain. It has been a long-established rule at Rugby that the whole school should meet together for morning prayers in the school chapel at 7 a.m. An alteration in this custom was made a year or two ago, as the head master naturally desired to address the assembled boys occasionally on various common school subjects. It was thought that this hour would be most opportune, without calling the whole school together on purpose, which, in the hard work incidental to school life, would have been exceedingly difficult to arrange. It was, therefore, settled that on two mornings in the week morning prayers should be held in the large hall, so that the head master might carry out his desire at the termination of prayers. Whenever this hall had been previously used for large gatherings, seats had been transferred from other class-rooms, and chairs were procured elsewhere. At the commencement of these "fifteen-minute" meetings, therefore, no seats were provided, as it was deemed no great hardship to stand for this brief period. The arrangement was in existence for a year or two, during which time the following events occurred. While it was exceedingly rare for a boy to faint during morning prayers in chapel, it became a common occurrence when prayers were held in the large hall where the boys had to *stand*. It was at first naturally assumed that the



cause resembled that of the fainting incidental to Militia training and Volunteer encampments, especially church parades, through the constrained position of "standing at attention." (Are these similar cases, undiagnosed as yet?) Then it was assumed that it arose from the hall being hot and ill-ventilated compared with the chapel. But when I found that it was not the delicate boys who fainted, and that the sufferers had hard rigid pulses, I at once saw that it was owing to early albuminuria; and, on analysis, this supposition proved to be the fact in nearly every instance. I have already referred elsewhere to such cases, but here we had a most marked class of them—boys getting up at 6.40 a.m. and rushing down to school. If they assembled in chapel where they could sit, faintness rarely occurred. The same set of circumstances existed, with the exception that the boys were required to stand for a few minutes, and thus by this differential examination the cause was at once discovered and the boys submitted to treatment. But seats have now been provided, and my diagnostic helpmate has failed me, so that the cases have to be traced in other and less pronounced ways. Could a more classical set of circumstances be presented, not only for the purpose of diagnosing cases, but also for their interpretation? Here we had a large number of boys going to bed and lying in the horizontal position for about eight hours and a half, and suddenly assuming the vertical position in the morning, often accompanied, doubtless, by a quick run of a hundred yards to school, and a flight of stone steps to be mounted on the mornings when they assembled in the large hall, and the circulation proving itself unable to meet the altered circumstances, and failing in the attempt. Is it not, therefore, perfectly manifest that these early cases of albuminuria, as I have already endeavoured to show, arise from the condition of the circulation pure and simple? Any such stress upon the circulation, such as active exertion, will under similar circumstances reveal the presence of albumen in the urine.

As to the *causes*, we may say that whatever entails extra work upon the kidneys at once hampers their circulation. For example, a chill, which throws upon them the work of the skin; a constipation, which acts in a similar manner; over-feeding, which gives them stress of work; also it may arise through mal-assimilation caused by indigestion, and hereditarily imperfect organs, entailing imperfect elimination of impurities from the blood, with the resulting transmission through the kidneys of irritating ingredients—setting up, therefore, increased arterial tension, with the production of transient, or even permanent, albuminuria if the condition be long continued. The amount of albumen varies from day to day and from hour to hour,

sometimes the merest trace being present, while at the next examination the urine may become almost solid on boiling.

The following points present themselves as the result of this consideration of the subject:—1. It is not safe to make a diagnosis in any patient without an examination of the urine. 2. Are not all cases of early albuminuria, in their early stage, identical with the class of cases I have described? 3. If so, it is perfectly clear that these cases of early albuminuria, which are so common in the young, constitute the early stage of what eventually may become developed into the chronic disorganisation of the kidney which is termed Bright's disease. 4. Would it not be well to come to some understanding as to its nomenclature, so that a uniform and appropriate name may be assigned to this disease, and that it may cease to be termed "functional"?

The gist of the whole matter seems to be this: That where the hyperæmia of the kidneys is severe the albuminuria is persistent, in whatever position the body may be placed, whether at rest or not, and whatever diet may be partaken; while if the hyperæmia be slight, from the cause having been trivial, or from a severe attack which is passing away, then the albuminuria only shows itself when the body assumes the vertical position, or under exertion, or after a full meal; but if the hyperæmia be prolonged, however slight in degree, the albuminuria gradually becomes persistent, owing to the permanent dilatation of the blood-vessels, and tends to destruction of the kidneys. As in the eye the inflammation may be so severe that the eyelids cannot even be opened, or may be so slight that there is no indication of any hyperæmia except under work; so here the inflammation of the kidneys may be so severe as to cease to work, as in acute nephritis, or so slightly hyperæmic that it is only elicited under a stress of its circulation, such as arises in assuming the vertical position, undergoing active exertion, or partaking freely of food, which is a pathological condition.—*The Lancet*, December 19, 1891, p. 1382.

## 28.—ON THE CAUSATION OF DROPSY IN RENAL DISEASE.

By W. HOWSHIP DICKINSON, M.D., F.R.C.P.

[The following excerpt is taken from Dr. Dickinson's Harveian Oration (1891).]

Many forms of dropsy are simple consequences of impediments to the circulation, and require nothing more than a knowledge



of the course of the blood for their complete explanation. Fluid accumulates behind an obstacle, and when we know where this is, and by what route the blood comes to it, the process stands revealed, whether we have regard to ascites from the portal obstruction, or general dropsy from cardiac embarrassment. Harvey's law has made simple what without it would be incomprehensible. But I will adventure further, and endeavour to show that renal dropsy, generally credited with a totally different mode of production, has its association with those which are purely mechanical, and is connected with the attitude of the blood-vessels as well as with the chemistry of their contents. Some forms of dropsy are obviously connected—and others perhaps less obviously—with exaggeration of intravascular pressure. Increased pressure on the venous side gives lessened absorption; increased pressure on the arterial side should give increased transudation. Of the first condition we recognise examples every day in the common forms of obstructive venous dropsy, whether cardiac, portal, or femoral, and recognise at the same time that they are dynamical, not chemical. It will be my endeavour to show that renal dropsy is dynamical as well as chemical, that it is associated with arterial pressure as the others are with venous, as immediately, though not *ab initio*.

The following facts must be had regard to in any explanation of renal dropsy which the future may have in store for us. If we look at the character of the effusions in different kinds of dropsy, certain broad facts present themselves which appear to have significance with regard to their mode of production. The chief components of such effusions differ from each other as chrystalloid and colloid: the salts chrystalloid and highly diffusible, the albumen colloide and slightly diffusible, except under pressure. Under osmosis salts should transude without albumen, under pressure both together. Now whatsoever be the cause of the dropsy, the effusions in the same place are essentially the same; not without differences, but without any such differences as would seem to imply an essentially different mode of origin. The effusions vary much with situation, little with disease. Those into the serous cavities are always rich in albumen, those into the cellular tissue poor in albumen with equal constancy. The mineral salts vary scarcely at all. Thus the similarity of the effusions cannot fail to suggest that renal dropsy is made in much the same way as those which are obviously due to vascular obstruction. Osmosis as measured by the salts, is nearly the same in the two kinds, while the albumen in both implies a process other than osmosis, which is certainly pressure in one case and may be so in the other. Any view, therefore, that renal dropsy is especially a result of osmosis must

be abandoned, and our inquiries directed anew to the nature of the process. When renal dropsy sets in, the urine is usually below par, but the relation of dropsy with the quantity of urine is not constant enough wholly to explain the process. With obstructive suppression dropsy is usually totally absent, while it is frequently present under the diuresis of diabetes. Such facts must find their explanation in any adequate theory of such dropsies as are not coarsely mechanical; and I venture to submit that whether coarsely mechanical or not, modifications of blood pressure are largely, if not mainly, concerned in the dropsical process. Anæmia has been thought to be concerned in renal dropsy; but we often see intense and even fatal anæmia under the name pernicious without any such effusion, whence it may be concluded that anæmia alone is not enough to cause it. With obstructive suppression arterial tension, so far as can be learned by the finger, is conspicuously wanting; while death occurs by asthenia or syncope. Low blood pressure, with no dropsy where it might otherwise be expected, is at least suggestive of the need for more facts. In acute nephritis, where the urine is only scanty, not suppressed, we see high blood pressure, and together with this dropsy. Want of urine does not alone and of necessity cause renal dropsy; increased arterial tension would seem to be a necessary intermediary, at least of this variety of it. An increase of arterial tension beginning with the earliest stage of nephritis, accompanying the oedema, and increasing with it and the disease, has long attracted notice. I could, if it were necessary, adduce a large number of tracings in proof of this assertion, which, I think, will not be doubted. If further evidence be needed on this point, it can be found in perhaps the most conclusive shape in the hypertrophy of the left ventricle even in the acute forms of the disease.

After death, within ten weeks of the onset of acute renal dropsy, I have found decided hypertrophy both of the left ventricle and of the muscular coat of the arteries. Hypertrophy of the left ventricle has long been accepted, and hypertrophy of the arterial muscle must be equally accepted, as evidence of an obstacle ahead—in front, that is of the major part of the arterial system, which on this evidence, as well as on that of the sphygmograph, must be over-charged and over-tight. The next question is where precisely is the arterial exit impeded, in the arterioles or in the capillaries? Upon this much turns. Renal dropsy, presumably, depends on excess of exudation, not deficiency of absorption; this can scarcely occur elsewhere than from the capillaries, whose walls alone are adapted to the process. If the primary obstacle is in the arterioles, as Johnson supposes, the blood must be in a measure shut off from the capillaries, the pressure on them reduced, exudation from them lessened, and



the view of renal dropsy which I am about to submit abandoned. But the doctrine of capillary obstruction preponderates, and, to use a political phrase, holds the field. It has been urged that the capillaries are not muscular; on the other hand, it has been shown by Roy and Graham Brown that they are contractile; besides this we cannot doubt what has long been inferred, that the blood may acquire peculiarities which add difficulty to its transit. That the obstruction is beyond the radial artery is sufficiently proved by the fulness of that vessel; that the obstruction is beyond the minute arteries of the retina and the brain is shown by their often bursting from the pressure to which they are subjected by their contents. We have no choice but to go further and attribute the impediment to the capillary system, whether from change of blood *per se*, or from vascular contraction engendered by it. With stoppage in front and accumulating systolic force behind, increase of transudation would seem to be inevitable. Whatever be the nature of the hindrance in the capillaries, we may presume from the phenomena of inflammation that it is consistent with an increase of transudation from them. So far I have shown that the form and stage of renal dropsy under discussion is at least associated with what may be called the mechanics of the circulation, which are necessary corollaries of the simple laws which we owe to Harvey. Whether the increase of pressure is complicated with any such secretive process as Dr. Waymouth Reid infers must be left for the future, but the more simple action seems too obvious to be excluded.

Now let me turn to a later phase of renal dropsy in which also the action of the heart and arteries is to be reckoned with. As the hypertrophy of these structures increases, the effusion independently of medicine tends to lessen and disappear. It would almost seem that this hypertrophy, whether of the heart or arteries or both together, is the natural cure for the dropsical state. This at first sight is difficult to reconcile with the early increase of dropsy, together with increasing arterial tension; for now with advancing hypertrophy the tension becomes greater, but the dropsy less. The hypertrophy is little of the right ventricle, mainly of the left ventricle and the arteries, and appears to militate against the dropsy so long as the cardiac change is unaccompanied by dilatation. Whether the heart or arteries have the more to do with this mitigation must be taken into question. The arterial thickening cannot fail, so far as I see, to obstruct the access of blood to the capillaries and dam it back in the heart and larger vessels, with the result of increased tension and increased cardiac hypertrophy. Here comes in the stopcock action, and with it lessened capillary pressure and lessened exudation. Now let us glance for a moment at the left

ventricle and the change of proportion which renal disease accomplishes for it. Look at the thickness and solidity of the wall and the comparative smallness of the cavity as yet undilated. Beside the obvious increase of contractile power which the increase of muscle entails, the expansile power must be increased even in a greater degree, since it must have to do not only with the thickness of the wall, but also with its extent; in other words, with the size of the cavity. The smaller the cavity in relation to the thickness of the wall the greater the rigidity of the chamber and its consequent expansile power. The suction thus exaggerated must tend to pump out the waterlogged tissues by drawing first upon the lungs, then upon the systemic veins and their tributaries. The hypertrophy of the right ventricle, so far as it goes, will also have an effect in aiding the circulation in the lungs and systemic veins, but it does not seem to go far enough to be of much use. It is worth noting, as bearing upon its nature, that renal dropsy, like cardiac, is acted on remedially by the horizontal posture; not only is the œdema moved, but often removed, and that, as we must infer, by reducing the pressure in the veins and capillaries of the dependent parts.

I now approach the last aspect of renal dropsy in relation to the circulation. After a time the hypertrophied ventricle begins to stretch, and then not only loses expansile power, but valvular adaptation. Dropsy reappears or increases, and is now as much cardiac as renal. Mitral regurgitation ensues through the widened orifice, though the valves may be healthy and a murmur is often heard which may mislead the unwary as to the origin of the disease; and as a more striking consequence, pulmonary apoplexy with hæmoptysis presents itself as a direct and simple issue of the cardiac changes of advanced renal disease. Did time permit I could show by example that this complication, so generally associated with disease proper to the heart, may be primarily and essentially renal, a result of the advanced granular kidney by way of vascular tension, cardiac hypertrophy, and cardiac detriment. The time at my command will not allow me to include in this consideration of renal dropsy that of lardaceous disease, which is far from simple. I hope to refer to this at some other time and place; but apart from this I venture to think that I have shown that the dropsy of kidney disease has an association with the dynamics of the circulation, which, though it may be less obvious and more complicated than that of cardiac dropsy, is not less real. All present themselves as connected with the movements of the blood, not in the remote or indirect manner in which almost every operation of the human body can be so traced, but under the immediate control of whatever impedes or adds force to the current.—*The Lancet*, October 24, 1891, p. 914.



## 29.—ON THE USE OF TURPENTINE IN THE TREATMENT OF RENAL CALCULI AND GALL STONES.

By C. H. RALFE, M.D., F.R.C.P., Physician to the London Hospital.

The object of the administration of turpentine, in conjunction with so-called solvents, diuretics, &c., is (1) to assist in the expulsion of any concretion already formed, and (2) to prevent the formation of others.

The first experience I had of the value of turpentine occurred some years back, in the case of a gentleman who for nearly two years had been subjected to the "solvent treatment," and who, after several months of that treatment, began to pass small fragments of calculous matter, and to suffer greatly from frequent attacks of renal colic, as if the stone was making efforts to pass. At the same time there was much hæmaturia, and a considerable quantity of pus was discharged in the urine. For the relief of the hæmaturia and to diminish the pyelitis turpentine was prescribed, with the effect that in a short time an oat-shaped calculus was expelled. This concretion was a mere shell of what had evidently been a solid calculus. I showed it at the Pathological Society (1882) as an evidence of what might be effected by the disintegrating action of soft water and by the chemical action of alkaline remedies. At the time, however, I paid little regard to the action of the turpentine in hastening the expulsion of the concretion.

Shortly afterwards my attention was more especially drawn to this point in the case of a gentleman who was sent to me by Mr. Tweedy, and who for some years had suffered from gout and gravel. He had passed at times numerous small concretions without much difficulty, till at last one much larger than usual refused to descend, and which gave us much trouble. At last, after three months of more or less suffering, in order to diminish the hæmaturia and pyelitis I ordered him to take some small doses of turpentine, which were quickly followed by the expulsion of a fair-sized uric-acid calculus. I then began to credit the drug with having a decided expulsive action, and I also thought that if it had that power in bringing away a fully formed concretion, it might ensure their expulsion before becoming completely developed, and therefore save a patient who suffered from recurrent attacks from a tendency to form pisiform calculi, from the pain of passing them when they had attained a more considerable size. I therefore directed this patient to take at stated intervals a few doses of turpentine, with the result that, though for some years previously he had passed annually small concretions (generally in the autumn),

from the time he commenced the systematic use of turpentine as I suggested he never again passed gravel in a concrete form.

Another case, illustrating both the expulsive as well as the preventive action of turpentine in the treatment of renal calculus, was that of a gentleman I saw some time ago with Dr. Easton, and who had suffered for some seventeen years with more or less frequency from recurrent attacks of renal colic, followed by the passage of calculi. On this occasion the stone did not pass, and as the patient was alarmed at the very profuse hæmaturia, a symptom which had not occurred with him before in previous attacks, it was determined to try to expedite matters by giving him turpentine in addition to the solvent treatment. A day or so afterwards Dr. Easton called on me, and brought with him several uric-acid calculi, some of them of considerable size, which the patient had passed shortly after commencing the turpentine. In this case I advised the periodic use of a few doses of turpentine at stated intervals, and I have since been informed by Dr. Easton that there has been no recurrence.

In another case the patient, in whom no doubt the calculus was of recent formation, had suffered severely from colic ten days previously to my seeing him, and had obtained no relief from alkaline remedies, opium, belladonna, &c., remedies which he had administered himself, from previous experience of their efficacy in former attacks. On this occasion his sufferings were more severe and prolonged than he had before experienced. After quieting him with a subcutaneous injection of morphia, I told him to take at stated times a dose of turpentine, and I wrote requesting Dr. Hollings, who lived near, to take charge of the case. In about two days Dr. Hollings called on me, and showed me an oat-shaped oxalate-of-lime calculus, with a surface covered with sharp crystalline points. Dr. Hollings stated that the patient could only take the turpentine two or three times, as it so greatly increased his colic, and then not the whole dose, as part of it was rejected by the stomach. However, what was taken distinctly increased the expulsive efforts, for, as the patient in a subsequent visit to me expressed, it was the first thing that "moved the stone."

In a case which was sent me by a colleague, with a view of seeing whether a calculus which had formed in the left kidney, and had troubled the patient for nearly two years, could be removed by therapeutic treatment, and so spare an operation, the following plan was tried. As the patient was leaving England for India on business for a short period it was agreed that whilst away he should try the "solvent treatment"—that is, distilled water with alkalies; and then, if there was no relief, to have the operation performed, either on his return or, if the



symptoms became urgent, in India. Whilst on the voyage I did not think it advisable for him to take turpentine, lest he might induce a severe attack of colic under conditions and surroundings unfavourable to a successful issue, but I told him to persevere with the "solvent system" whilst on board, and then, when he arrived at Bombay and was within reach of skilled surgical assistance, to begin the turpentine. This he did, and he wrote to me by almost the next mail after his arrival to say that after a few doses of turpentine he had passed a fair-sized concretion, which he enclosed for examination (oxalate of lime). He stated that during the voyage nearly all signs of discomfort left him, possibly due to the alkaline treatment, but more probably due to his reclining all day on a deck chair, instead of moving about as he did all day when on shore. On reaching land, however, and commencing turpentine, the colicky pains at once became severe, and speedily ended in the expulsion of the calculus.

More cases might be quoted in which the expulsion of a calculus, which had been retained some time in the pelvis of a kidney, and which had resisted for a considerable period other treatment for its removal, but which yielded to a few doses of turpentine, might be recorded; and also cases in which periodically recurring calculi—so-called "pisiform"—ceased to pass whilst the drug was taken at regular intervals. But sufficient has been brought forward, I think, to show that turpentine does expedite the expulsion of renal calculi, and by doing so when recently formed is an occasional preventive measure in cases of recurring calculi by expelling them whilst still small. Of course there are many cases in which turpentine fails, and resort must be had to operative interference; but, with the above facts, I think that in a very considerable proportion of cases a fair trial should be made of this therapeutic measure before resorting to operative procedures.

With regard to the action of turpentine on the expulsion of gall stones my experience is not so considerable as with renal calculi, and it has rather been in the direction of prevention in cases where gall stones were recurrent than in direct success as regards their expulsion. But this is of less importance since Trousseau speaks so favourably of it as an expulsive agent. In one case, that of a gentleman who was advised to consult me by Dr. John Williams, the patient brought a considerable number of calculi which he had passed during a period of three years at frequent intervals, and had only just recovered from the effects of passing the last. He was much jaundiced and emaciated, having lost more than a stone during the time of these recurrent attacks; and was exceedingly depressed, being worn out by constant suffering and also by the dread of having to undergo an

operation. He commenced taking turpentine, and from that time to this, now five years, he has never had colic or jaundice, or any reason to suppose that any calculus had passed. A second case was that of a clerk, who presented himself at the London hospital suffering from attacks of recurrent jaundice attended with severe colic. He was ordered turpentine mixture, and shortly after commencing it he had another attack of colic, and then the attacks ceased. He presented himself for some weeks, during which the jaundice subsided, and he seemed completely recovered. He promised to come and see me or let me know should he again be troubled, but so far he has not applied. One other case, instructive as showing that turpentine has a directly expellent action, occurred in a patient in Davis ward at the London Hospital. She had suffered for a long time past with a pain in the right hypochondrium, which came and went. It was colicky in its nature, usually made her very sick, but was not attended with jaundice. Thinking it might be due to gall-stones, I prescribed turpentine. The pains were increased, and in a day or so she became jaundiced. No stone however, passed, as it was probably too large for passage, and after giving the turpentine a fair trial the attempt was abandoned and an operation advised. Still, in this case efforts at expulsion distinctly followed each time the administration of turpentine was renewed.

Since this was written another case in which the administration of turpentine was followed by the immediate expulsion of several small gall stones has come under my observation. This gentleman had suffered from pain and sickness for three years. The administration of turpentine at once brought away a small concretion, which has since been followed by others, with relief to his other symptoms.

In conclusion, it may be as well to consider how turpentine acts in thus causing the expulsion and the prevention of calculi. First as regards expulsion. It has been stated that turpentine acts powerfully as a diuretic, and thus helps in washing down the stone. This may be so when turpentine is given in small doses for some time, and may thus help to wash down a small recently formed concretion ; but when there is much colic, and there is a decided tendency for the stone to pass, I have noticed that, so far from turpentine acting as a diuretic, it has an opposite tendency ; indeed, on these occasions one has to be very guarded as to giving the drug, as strangury is then so easily induced. On the other hand, turpentine decidedly increases the colic, and it would appear as if it actively stimulated the muscular fibres of the pelvis of the kidneys and ureters, and also of the gall-bladder and bile ducts. This, I think, was shown in a case I saw with Dr. Mare, of Grays, in which,



combined with frequent colic, there was considerable hæmaturia and pyelitis ; after a time these symptoms yielded to treatment, but Dr. Mare informed me that whenever the temperature was resumed the colicky pain returned, though at other times the patient was free from pain. In long-standing cases turpentine aids the passage of a calculus by improving the condition of the mucous surface of the ureters and bile ducts ; for by diminishing the swelling caused by catarrh there is less resistance presented to the onward passage of the concretion, and especially allowing it to pass whilst still small. In those cases also in which there is a tendency towards the constant formation of calculous concretions, as shown by a more or less frequent recurrence, turpentine acts as a preventive by rendering the secretion less tenacious and viscid—that colloid medium, which all writers who have described the formation and growth of calculous concretions insist on as essential for their development. Finally, with respect to some forms of gall-stone, not only does turpentine aid in preventing their formation by its action on the mucous surface of the gall-bladder and rendering the contents less viscid, but also probably exercises an antiseptic action on the bile secreted, and thus prevents the precipitation of cholestearin, which, we know, becomes less soluble as bile loses its natural alkaline reaction, which it does if any fermentative changes take place in it.—*The Lancet*, December 5, 1891, p. 1271.

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# Surgery.

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## GENERAL SURGERY AND THERAPEUTICS.

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### 30.—DISINFECTION OF THE SKIN FOR SURGICAL PURPOSES.

By WILLIAM H. WELCH, M.D., Professor of Pathology in  
Johns Hopkins University.

[The following excerpt is taken from an important and interesting article on wound infections, published in *The American Journal of the Medical Sciences*, for November, 1891.]

As to the practical efficiency of disinfection of the skin with solutions of corrosive sublimate, it is to be said that this agent, properly applied, kills most of the bacteria upon the surface of the skin. The washing of the skin with alcohol immediately before the use of the sublimate increases its efficiency to a marked degree. If Fürbringer's method be carried out according to the strict letter of his directions it yields fair results, but it is not certain. If the mercury after employment of this method be precipitated by washing the hands in sulphide of ammonium, it will be found that the results are much less favourable than would appear by cultures made from the skin and under the nails, without the use of ammonium sulphide. It is especially the scrapings under the nails and around the matrix of the nails which yield positive results when ammonium sulphide is used, but often negative ones without this precaution. It need hardly be said that in our experiments all of the well-known, although often neglected, precautions to insure the full strength of the sublimate solutions were observed.

It may be urged that it is not necessary actually to kill the bacteria upon the skin; it is sufficient if they are rendered incapable of growth, and as most of those which are not killed by the sublimate do not grow upon our ordinary nutrient media, it is reasonable to infer that they will not grow in wounds. This line of argument certainly deserves consideration; nevertheless, there is no positive proof that these bacteria will not grow in wounds under some conditions, and surely one will feel safer with a method of disinfection which actually kills the bacteria.



We have thus far obtained the best results in disinfection of the skin by the following method :—

1. The nails are kept short and clean.
2. The hands are washed thoroughly for several minutes with soap and water, the water being as warm as can be comfortably borne, and being frequently changed. A brush, sterilized by steam, is used. The excess of soap is washed off with water.
3. The hands are immersed for one to two minutes in a warm saturated solution of permanganate of potash, and are rubbed over thoroughly with a sterilized swab.
4. They are then placed in a warm saturated solution of oxalic acid, where they remain until complete decolourisation of the permanganate occurs.
5. They are then washed off with sterilized salt solution or water.
6. They are immersed for two minutes in sublimate solution, 1 : 500.

The bacteriological examination of skin thus treated yields almost uniformly negative results, the material for the cultures being taken from underneath and around the nails. This is the procedure now employed in the gynecological and surgical wards of the hospital.—*The American Journal of the Medical Sciences*, November, 1891, p. 460.

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### 31.—ON DRAINAGE IN SURGERY.

By ARPAD G. GERSTER, M.D., New York.

Intimately connected with the change of views respecting preparatory asepticism and irrigation is the shifting of our standpoint regarding the application of *drainage*. Imperfect cleanliness, copious irrigation, and abundant drainage represent the links of a chain forged by necessity. A faultless asepsis has often enabled us to do away both with irrigation and drainage. Wounds of a moderate extent, for instance, made in herniotomy, if really aseptic, their dissection clean, and hæmostasis perfect, will behave correctly under an hermetic collodion dressing, and exactly like a subcutaneous injury. The oozing will be very moderate, scarcely penetrating the thin coat of gauze soaked in collodion, swelling none, and after the lapse of ten days we shall find the catgut stitches absorbed and the wound perfectly healed. This is a common observation of modern surgeons and does not need specific verification. The same principle finds a different application in certain operations about the joints and bones, when so-called “dead” spaces must be left behind. As most of these operations are done with the aid of artificial anæmia considerable oozing of blood

follows the removal of Esmarch's bandage. This blood fills up the irregular cavities left by the surgeon, and, coagulating, forms there a solid aseptic plug, which is gradually consumed and replaced by connective-tissue elements of new formation. For seven years I have abandoned the use of drainage-tubes in those excisions of joints and sequestrotomies where it was possible to remove all diseased tissues in an unexceptionable manner. According to Schede's plan, I have only provided an avenue of egress for the first onrush of oozing blood by leaving one or another angle of the wound somewhat patulous. A film of protective over this little gap will prevent the absorption of the blood needed for filling up the irregular cavity of the excision wound, and will maintain sufficient moisture to prevent the exsiccation of the coagulum.

And even in operations where we are not absolutely certain of the aseptic condition of our wound we can often dispense with the use of drainage-tubes, and not incur any serious risk. Bergmann first demonstrated that a wound of doubtful asepticity can yet be made to heal by primary adhesion. He passed his suture points through the edges of the wound, but leaving them untied, and then packed the open wound and all its recesses down to the bottom with iodoform gauze. Over this was placed the usual outer dressing. Through the capillary action of the gauze copious oozing of serum was encouraged, which in about sixty hours lost its sanguinolent character, whereupon the packing being extracted the suture points left *in situ* were closed, and the wound was seen to heal in a manner little differing from primary union. Undoubtedly, much of the success of this plan of packing and secondary suture is to be attributed to the action of iodoform, which has triumphantly withstood various attacks upon its reputation.

Still another modification of this form of drainage is now extensively employed in abdominal surgery, where, on account of much unavoidable denudation or accidental infection, copious oozing is to be expected. Mikulicz was the first one to employ the iodoform-gauze packing successfully in the abdominal cavity, and his plan has met with widespread and deserved acceptance. First it does away with the use of the drainage-tube, and secondly, its contact with the peritoneum causes just enough adhesive irritation to insure after its removal rapid agglutination of the raw surfaces. Immediate closure of the wound can be practised after extraction of the packing. But *drainage by tubes* still remains indispensable where acute progressive suppuration has to be dealt with, as an ample way of egress must be provided for sticky and coherent masses, of pus, blood-clot and sloughing tissue.—*The American Journal of the Medical Sciences*, November, 1891, p. 508.



## 32.—ON IRRIGATION OF OPERATION WOUNDS.

By ARPAD G. GERSTER, M.D., New York.

The wholesale condemnation of irrigation as employed in the past is just as sure a sign of superficiality on the part of the critic as the slighting of the important rôle of antiseptic agents in former periods of the antiseptic method. As long as the preparatory measures to an operation were rather perfunctory; as long as the skin, the surgeon's hands, his sponges, instruments, and dressings were indifferently cleansed, the continuous use of disinfectants during and after the operation was necessary to insure success—that is, to ward off virulent suppuration. Similarly, under those conditions, the use of continuous irrigation during operations was justified by the general improvement of results observed after its employment. As we have learned to lay greater stress upon, and practice a more exact form of, preparatory asepsis, so the necessity for chemical germicides and irrigation has been restricted. But both of these agents have furnished a valuable and necessary link in the chain of development of the discipline. This view is confirmed by the fact that practical experience tells us how indispensable irrigation still is to the safe performance of many operations done in regions which can be rendered and kept aseptic only with great difficulty or not at all. Here, too, the mechanical effect of the stream of irrigating fluid is infinitely more important, in my opinion, than the chemical influence of the weak solutions generally used. It is rather the rush of the fluid washing away impurities than the salicylic or boric acid dissolved in it that is effectual.

Accordingly, we rarely employ irrigation in wounds that are known to be free from infection, and with few exceptions never take strong solutions, the use of which has produced in the past a considerable number of fatal intoxications. By eschewing chemicals we also have seen hæmostasis become easier, and especially have observed that the troublesome oozing of the fresh wound has been almost entirely done away with. Our dressings grew less bulky and cumbrous; they could be left longer undisturbed, and, what is an important item in the amputation of limbs, could be bandaged on with less pressure, whereby the danger of marginal necrosis of the flaps is materially diminished. In short, the dryer the operation, the dryer was the course of healing. How this matter has affected the question of drainage we shall consider presently.

To sum up, we shall say, then, that irrigation of an aseptic wound is unnecessary, even harmful; that it should be only employed in wounds which are *per se* not aseptic, such as those in the vicinity of or within the several orifices of the body—as,

for instance, the rectum, oral cavity, and vagina; that irrigation is well employed during operations in and about accidentally infected or suppurating areas. *A notable exception to this rule is the abdominal cavity, wherein irrigation is never to be employed.* This statement seems to condemn a widely spread practice, and some courage is needed to express it unreservedly. But both experience and scientific experiment support this view. It will be objected that a vast array of cases is on record wherein irrigation of the abdominal cavity was practised successfully by eminent surgeons. To this we reply, that where harmless substances, as, for instance, blood, non-septic contents of cysts, or abacteric pus from a ruptured pyosalpinx or ovarian abscess, have accidentally soiled the peritoneum, the simple wiping off of the bulk of these substances is sufficient to eliminate danger; that in these cases irrigation is unnecessary, and that recovery takes place rather in spite than in consequence of irrigation. How entirely useless, nay, pernicious, the effects of flushing the peritoneum are in cases of active septic infection, as, for instance, in the presence of fetid fecal abscesses due to intestinal perforation, has been abundantly demonstrated to myself and to other surgeons here and abroad by numerous unsuccessful attempts. And there is nothing more certain than that, on account of its complex character, the peritoneal cavity cannot be completely washed clean; that germicidal solutions cannot be used in a sufficient strength to be effective, and that finally an inert or weak solution will only help to spread the elements of infection to previously unaffected areas. The substance of these assertions was essentially confirmed by experimental research on animals.

I take this opportunity for a short diversion to a subject still discussed by surgeons and deserving some notice. Most operations within the peritoneal cavity afford no very rigid test of the absolute value of the aseptic measures therein employed. The tolerance of the peritoneum is almost incredible, and technical sins committed during abdominal operations against the accepted rules of cleanliness, proper dissection, hæmostasis, go much oftener unpunished than those incurred at an amputation, resection, osteotomy, or the excision of extra-abdominal tumours—in fact, at all major operations performed outside of the belly. But let the limits of peritoneal tolerance once be overstepped, and usually the damage becomes irretrievable; the patient generally dies of septic peritonitis, for which there is no adequate corrective. On the other hand, if extra-peritoneal regions manifest less tolerance of slipshod methods, the consequences of surgical shortcomings are here often retrievable by corrective measures of one or another kind. The tolerance of the peritoneum was only too often the mantle of



charity under which were hidden from view sins of omission and of commission of laparotomists without surgical training. In laparotomy more than anywhere else the most rigid asepsis is a conscientious duty.—*The American Journal of the Medical Sciences*, November, 1891, p. 506.

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### 33.—THE TREATMENT OF INOPERABLE MALIGNANT NEOPLASMS BY THE ANILINE DYES.

By PROF. R. VON MOSETIG-MOORHOF.

Translated by F. F. BURGHARD, F.R.C.S., Assistant Surgeon to King's College Hospital.

Prof. Mosetig-Moorhof thinks it desirable, in consequence of the numerous inquiries made of him and the appeals for the publication of cases, to put on record the results that he has obtained up to the present time in the treatment of malignant growths too advanced for operative relief by the injection of the aniline dyes. In 1883 he injected a 1 per cent. watery solution of aniline trichlorate (free of all traces of arsenic) into a man fifty years of age, who was the subject of a sarcoma of the inguinal region as large as an orange. The injection was repeated every two or three days well into the tumour. In two months' time the mass had decreased to a nodule the size of a nut; it had in part broken down and in part shrivelled up. The man remained well for a year, and then died of an acute pneumonia without any relapse having taken place. Notwithstanding this very successful case the treatment had to be abandoned for a time, owing partly to the unpleasant constitutional effects that were produced, and partly to want of material. In 1890 Professor Stilling's pyoktanin (Merck's preparation) was tried, and owing to the fact that it combines a certain amount of antiseptic power with a high degree of innocuousness it has been largely used since. The technique of the treatment is then given at some length. A special syringe, holding from two to three grammes, is used with long and wide cannulæ. A Pravaz syringe does not hold sufficient, and with a small needle greater pressure has to be exerted on the piston. Some special curved cannulæ are used for injections into the tongue. The needle must be most carefully rendered aseptic, and the syringe should be used for no other purpose. An aqueous solution should be used and should be carefully filtered (if possible, through an aseptic asbestos filter), as it has always a tendency to precipitate, and so block the cannula. To avoid

this, also, it is advisable not to use a more concentrated solution than 1 in 500. Disinfect the skin. The cannula should be plunged into healthy skin immediately beyond the tumour, and pushed in deeply towards the edge of the growth. When it has penetrated the latter, the solution should be slowly injected. As much as from two to twelve grammes of the 1 in 500 solution may be injected at each sitting, the injections being made either at one spot or at several, as may seem necessary. Where the surface of the growth is ulcerated, the needle must be introduced further away and pushed deeper, as there is always an escape of the fluid from the surface of the ulcer. In tongue cancer it is important not to inject through the floor of the ulcer. Such a proceeding may be followed by cellulitis from the introduction of septic matter from the floor of the ulcer along the track of the needle. In cases of enlarged submental glands or epithelioma of the floor of the mouth the injections should be made from the outside.

The objections brought forward against the treatment are then dealt with. Prof. Mosetig-Moorhof affirms that in his experience, and after many hundreds of injections, there is no danger of any coagulation occurring if the drug is injected by accident directly into the blood stream. This clinical experience is supported by Ehrlich's experiments, where it was found that the methylene blue when injected into the bloodvessels of dogs caused no coagulation and no ill effects. This point was further exemplified in a case of very large pulsating soft sarcoma of bone in a child where a profuse rush of blood occurred through the cannula, and where pressure had to be applied after the injection had been made in order to check the bleeding. Here the drug must have got into the blood stream. Nevertheless the pain disappeared and the boy felt better.

It has been found that the harder varieties of sarcoma and the carcinomata, especially the former, are likely to derive more benefit from this injection treatment than are the softer, more vascular, and rapidly growing sarcomata. The tumours of the soft parts are likewise more amenable to the treatment than are those of bone. Inflammation never occurs, unless septic material has been introduced with the cannula. Hence the precautions to render the instruments aseptic, and to avoid injecting through ulcerated surfaces. Some oedema may occur soon after injection, and persist for some days. This is probably due to the pressure of the fluid and its slow absorption from the site of injection. Pain is rarely felt for more than a few minutes. It is due to the distension of the parts by the large amount of fluid injected. In some cases it may last an hour or two. In only two cases, where twelve grammes were injected at one spot, were there shiverings and rise of temperature.



The benefits are thus enumerated :—1. Relief of pain, usually very marked and often very rapid. This is explained by Ehrlich's observation that in the living subject these dyes are found first of all to affect the nerve-endings. This relief of pain after a few injections may be permanent. There is, however, no relief of the distressing pain in case of "carcinome en cuirasse." 2. Improvement of general health. The relief of pain leads to natural sleep, improved appetite, and gain in weight. 3. Mental improvement. It cheers and lightens a patient's end by exciting hopes and rousing him from hopeless despondency. 4. Improvement in function of various organs—e.g., the tongue may become movable in epithelioma linguæ, &c. 5. Shrinking of the tumour. Even in the softest and most rapidly growing tumours some retardation of the growth may be produced and perhaps some diminution in bulk. In suitable cases this may be very marked, and may either occur from breaking down of the growth or shrinking up of it. The two processes are usually combined. Secondarily affected glands may shrink as a result of injections into the primary growth. 6. Cicatrisation of a malignant ulcer may occur, especially when the drug is directly applied to the surface. 7. A foul ulcerated surface will clean and the fœtor will diminish. It is therefore found in actual practice that shrinking of the growth, and even actual cicatrisation, may be obtained. Sufficient time has not yet elapsed to enable any opinion to be formed as to relapses. Only two out of more than seventy cases treated by Professor Mosetig-Moorhof have up to the present time (one year from the beginning of the treatment) relapsed. The treatment should only, of course, be used in cases that are beyond the reach of operation. It cannot do harm, and may do much good.—*The Lancet*, February 20, 1892, p. 414.

### 34.—ON SO-CALLED STRUMOUS INGUINAL LYMPHADENITIS.

By L. T. RIESMEYER, M.D., St. Louis.

The pathology of the chronic forms of inguinal lymphadenitis is still a disputed question. I incline to the view of Culvert (Eulenburg's *Encyclopedia*) and Klotz (*Berlin. klin. Wochenschr.*, 1891), that the majority of cases known under the names of strumous buboes, indolent sympathetic buboes, hyperplastic lymphadenitis, etc., are caused by the absorption of pyogenic material and are not due to scrofula, tuberculosis, or syphilis. Of forty-three cases that I have observed, the majority had suffered from gonorrhea from six months to five years before

they presented themselves. Three patients had chancroids, and one also a syphilitic chancre, a number of months before they came to be treated for the lymphadenitis. In five cases the swelling in the groin was attributed by the patient to the lifting of a heavy load, while for the rest no cause was ascertainable.

As a rule, the patients came during the later stages of the disease and presented the following symptoms: face pale and ash-coloured, loss of appetite, a tired feeling, pains in the limbs, chilly sensations alternating with sensations of heat, night-sweats. Temperature varying between 100° and 102° F.

Upon examination a large, nodular tumour, irregular in form, often fluctuating at one or more points, is found in one or both groins. The skin covering the tumour is, in contradistinction to the virulent bubo, of a livid, blue colour, and is not infrequently perforated by one or more fistulous tracts. There is usually but little pain upon pressure. In all cases the glands contained a great many miliary abscesses, otherwise showing only a hyperplasia of the connective tissue and the medullary lymphatic tissue. Of microorganisms, staphylococci and streptococci were found. Hypertrophied lymphatic vessels run over and through the substance of the tumour. In some cases the glands presented one large fungous mass, in which no individual gland could be made out. The time required for the development of the tumour as described varied between six months and three years. No tuberculosis was found among the cases, and after the operation the patients presented a strong and healthy appearance. Strict antisepsis or asepsis is necessary in the extirpation of the glands, on account of the important structures in the neighbourhood of the inflammatory focus. If the glands are not removed before the pus has broken through the capsule, the patients are exposed to the following dangers: hemorrhage and gangrene, in consequence of erosion of the femoral vein; deep abscesses of the thigh and pelvis and retroperitoneal abscesses; coxitis and gangrene of the scrotum, peritonitis, septicemia, and pyemia.

In one case serious complications were observed, namely, a deep abscess of the thigh, a pelvic abscess, and very extensive gangrene of the scrotum. The whole anterior half of the scrotum and part of the septum sloughed away, and for two weeks the temperature varied between 101° and 105° F. Three years later the patient was well; he had no inconvenience from cicatricial contraction of the scrotum, although no plastic operation or skin-grafting had been done, showing that the loss of one-half of the scrotum may not necessitate a plastic operation.

To extirpate the glands, the method recommended by Poelchen (Langenbeck's *Archiv. für klin. Chirurg.*), of first exposing



the internal saphenous vein by a vertical incision and dissecting along this vessel, leaving it intact upon the fascia lata, is the most rational. The glands are in this way removed quickly and without endangering the femoral vessels. In conjunction with Dr. L. P. Pollmann, I have had occasion to locate this vessel topographically. After determining the location of the femoral artery in the usual manner, the internal saphenous vein is found exactly at the point of union of the external with the middle third of a straight line connecting the pubic spine with the point of intersection of Poupart's ligament with the femoral artery.—*Medical News*, November 14, 1891, p. 569.

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### 35.—ON THE OPERATION OF EXCISION OF THE BREAST.

By A. PEARCE GOULD, M.S., Senior Assistant Physician,  
Middlesex Hospital.

1. *The Incision*.—Some difference of opinion exists as to the best direction for the elliptical incision which is almost invariably employed. In a clinical lecture published in *The Lancet* of May 9th, 1891, Mr. Christopher Heath discusses this matter from the point of view of the more or less perfect drainage of the wound which can be obtained. Another point considered to be of importance is the ease with which the incision can be prolonged into the axilla for the removal of infected glands. I would submit that neither of these considerations need have any weight with the surgeon. There is no wound which is more easily and uniformly treated without resort to any means of drainage than that left after removal of the breast and axillary glands. It is sometimes convenient to prolong the incision into the axilla, but it is never necessary to do so, for it is quite easy to clear out the axilla completely through the wound made for removal of the mamma. Quite recently, I have had to operate upon two cases of scirrhus tumour situated in the upper portion of the mammary gland, and I made my incisions so that the long axis of the ellipse of skin removed was vertical. In both cases it was quite easy to remove the whole of the axillary fat and glands through this incision. This is the most extreme case. Two considerations only should guide the surgeon in planning his incisions—one paramount, the other of secondary importance. The first is the complete removal of the nipple and the skin over the tumour when that is malignant; the second is to have the cicatrix parallel to the fibres of the pectoralis major. In most cases these two objects are best attained by the same incision—

one enclosing an ellipse of skin parallel with the anterior fold of the axilla when the arm is at a right angle with the trunk.

2. *The Axillary Glands*.—When the mamma is not the seat of a malignant growth, of course the surgeon will not invade the axilla, and even when the disease is sarcoma, the axillary glands should not be removed unless obviously diseased. During the last year I operated upon two patients with sarcoma of the breast, in whom secondary growths occurred in the axillary glands. But in cases of carcinoma of the mamma I am strongly of opinion that it is the surgeon's duty, as a matter of routine, to remove all the axillary glands in their packing of fat. When I first made this assertion, in a paper read before the Medical Society of London, March 27th, 1882, I was mainly influenced by theoretical considerations. Since then I have had, and seen, several cases where disease could only be recognised in the axillary glands after their removal, because it existed in foci of the size of a white mustard-seed or peppercorn. I have followed this practice in every case of operation for cancer of the breast since 1880, and have never had cause to regret it. Where the glands are obviously diseased all surgeons are agreed that they should be removed, and difference of opinion only arises in the cases where no enlargement of the glands can be detected. It is assumed that in such cases no glandular disease exists, and it is asserted that the removal of the glands is an unnecessary extension of the operation and an additional danger. But the assumption is not well founded; for it is only when careful examination of the glands after removal has shown them to be free from cancerous infiltration that we can be sure that they are not infected, and then it must be remembered that it is just in these cases that the axillary glands can be removed with practically perfect safety. There is no adhesion to vessels, muscles, or bone to render the operation hazardous. It is useless to refer to statistics in this matter. The cases where in the past the glands have been excised as well as the mamma, of course, show a rather longer convalescence, and even a higher mortality than those where only the breast has been excised, for they include all the severer cases, such as those requiring extensive dissection, and those where the glands are adherent to the axillary vessels or their large branches. But where the glands are not obviously diseased there is no risk of wounding any important vessel or nerve, and their free removal in no way adds to the danger of the operation if the wound is aseptic. It is best to remove the axillary glands and fat in one mass, first separating it from the pectoral muscles, then from the serratus magnus, then from the subscapularis, and lastly from the vessels on the outer side. The fat should be removed quite up to the clavicle, as the chain of glands extends up to that bone.



A raspatory is the best instrument to use when anything more than the finger is needed. The intercosto-humeral nerve should be preserved, and this can easily be done in all cases where the glandular infiltration is limited.

3. *Arrest of Hemorrhage.*—The most convenient plan is to pick up with pressure forceps any spurting arteries as they are cut, and then, when the breast is detached from the pectoral muscle, to carefully search for any smaller bleeding points and treat them in the same way. Then proceed with the clearance of the axilla, and if any artery is divided, seize it also with forceps. Now remove the forceps in the order in which they were put on, taking great care not to open up the compressed ends of the arteries. Occasionally one or more arteries will require to be twisted—a ligature is never necessary. Sponges should be used only to dry the wound, and should never be rubbed over it; the less they are used the better. No bleeding point, however small, should be neglected.

4. *Irrigation.*—The wound should be thoroughly flushed with a solution of bichloride of mercury (1 in 2,000), after the hemorrhage has been arrested. I generally use four or five quarts of the solution, and find it a good plan to flush the wound with it just before fastening the last suture. Care must be taken to express all the fluid, and if this is done there is no fear of corrosive sublimate poisoning. Besides its action as an antiseptic, this solution is a valuable astringent, and greatly diminishes the subsequent serous exudation, and in this respect is far superior to carbolic acid solution.

5. *Suture and Drainage.*—I have obtained the best results with a continuous suture of the finest chromicised catgut introduced at intervals of half an inch, and each loop caught up—the button-hole stitch. A drainage-tube should not be employed.

6. *The Dressing.*—The dressing should fulfil two conditions. It ought to be aseptic, and it should secure exact apposition of the wound surfaces without any movement, until primary adhesion has taken place. The rounded, firm, and yet elastic chest wall is admirably adapted for a surface of counter-pressure. Immediately over the wound I place a fourfold dressing of boric lint, large enough to extend about an inch in all directions beyond the wound surface. This is fixed in place by strips of strapping, cut two inches wide. They are fixed to the back at the level of the spine of the scapula, passed round the chest to the opposite shoulder, and put on from the lower edge of the dressing up to the anterior fold of the axilla. They are applied sufficiently firmly to keep the flaps of skin well and evenly pressed against the thorax, and so prevent any bagging in the wound. Over this a dressing of alembroth gauze or wool is

fastened on with a roller bandage carried round the trunk in an ascending figure-of-eight. Lastly, the arm is fixed to the side, with the forearm lying across the trunk, the elbow bent at a right angle. This should be done by means of a sling, not by bandages. The best sling for the purpose is a common chamber-towel folded in two lengthwise. The forearm and arm are dropped between its two layers, the hand being just within one end, and then the other end is passed round the back under the opposite arm, and the two ends are pinned together and to the underlying bandage. Additional pins should be placed behind the arm and above the forearm. In this way the arm and forearm are securely, evenly, and comfortably fixed, and by removing two or three of the pins the outer layer of the sling can be turned down, and the hand and forearm washed every day, without in the least disturbing the position of the arm and the rest of the dressing. One special feature of this dressing is that there is no bandage or sling over the shoulder or round the neck—a most important matter for the patient's comfort, as the head and neck can be moved quite freely. A bandage passed round or over the neck is more than uncomfortable—it is inefficient, for it is sure to get loose.

The *after-treatment* can be dismissed in a few words. The first trouble to combat is the pain in the back, which inevitably comes on when a patient lies in bed with the arm fixed to the side. For the first twenty-four hours a firm pillow should be carefully placed under the arm of the affected side so as to support it well; this may be entirely successful in relieving the pain. After the first day I like the patient to be raised into a sitting posture, well supported by pillows or a bed-rest; this at once relieves the pain. On the second and each successive day the sling should be gently turned back; and while one hand is placed upon the arm to keep it fixed against the chest, the fingers, wrist, and elbow should be flexed and extended, then washed, dried, powdered, and again fixed in the sling. This is a great refreshment to the patient, and in no way disturbs the wound or the dressings over it. On the fourth or fifth day, if all is well, the patient may get up and sit on a chair. On the seventh day the dressing should be removed, care being taken in turning back the deepest part of it not to break down the union of the wound edges and surfaces. As a rule union will be found complete if the edges have been brought into exact apposition without undue tension, and if the dressing has been affixed with the requisite amount of pressure. All the stitches should be cut and gently removed, and the tender cicatrix should be protected by a dressing of a double layer of sublimate gauze fixed on with collodion, and over that a light boric lint dressing may be fastened by a figure-of-eight bandage round the



body. The patient, if in a hospital, may now go home and return in a week for the removal of this dressing, when, if the cicatrix is firm, no further treatment will be needed. It is not necessary or wise to keep the arm fixed to the side after the first week ; there will not then be any troublesome stiffness of the shoulder afterwards. In his recently published *Manual of Operative Surgery*, Mr. Treves states that "the patient may usually be ordered up on the eleventh day, and may leave the hospital on the fourteenth." As stated above, I have found it not only possible, but desirable, to allow my patients up much earlier than this, and lately they have, as a rule, left the hospital before the tenth day, some of them on the eighth day. —*The Lancet*, February 20, 1892, p. 411.

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### 36.—ON THE TREATMENT OF VARICOSE VEINS BY EXCISION.

By A. ERNEST MAYLARD, B.S., Lond., Senior Surgeon to the Victoria Infirmary, Glasgow.

The excision of a varicose vein is no new method of treatment, yet it must be said to have a much more limited application among surgeons than it deserves. There are various objections raised against its use. Among some I may mention the danger of suppuration and absorption into the system by the divided veins ; the deep seated pain due to the enlargement of the deeper veins, the superficial no longer returning the blood ; with others of minor importance. But with strict antiseptic precautions there ought to be little or no danger of septic trouble arising ; and, regarding the dilatation of deep veins, this is largely theoretical.

There is no doubt that there is reason for considerable care in the preparation of a part for operation if untoward results are to be prevented. These dilated and tortuous veins are surrounded by fibrous tissue and lowly organised tissue in general, so that there is every likelihood, from the absence of healthy recuperative tissue, of septic trouble arising at the slightest incentive. Again, in operating upon a vein, the cause of a chronic ulcer, there exists an open wound for the absorption of septic material ; and to operate before the ulcer and the parts around have been brought into a healthy condition is to run a decided risk of getting subsequently a septic wound. With due consideration of these facts, and a proper attention to the ordinary details of antiseptic surgery, there can be no more risk in excising a varicose vein than in performing many another safe operation of similar magnitude.

In a case where I propose to excise a varicose vein for a chronic ulcer, the treatment is first directed to the ulcer. The ulcer is cleansed, and it and the surrounding parts are rendered healthy and active by the daily application of massage. So soon as I have reason to believe that the ulcer is a healthy healing wound, the matter of operation is considered. The skin over and around that portion of the vein which is to be removed is prepared in the usual way. In the case of the internal saphena, the most varicose portion is, in some cases, on the inner side of the knee, in others on the calf; in others, again, it may involve both parts. An incision is carried through the skin along the whole length of the portion of the vein to be excised. When exposed it is dissected up, ligatures applied around each radical of the varicose trunk, and the trunk itself tied above and below. The skin wound is then stitched up carefully, and dressed antiseptically. The operation is simple enough, and one might almost say there is more in the proper preparation for it than in its performance.

In illustration of the treatment, I will narrate the case of a patient upon whom I operated for varicose veins and chronic ulcer last August. He is 55 years of age, and a jeweller by trade. He was admitted to the Victoria Infirmary, under my care, with a small indolent ulcer at the lower part of the inner side of the left leg. The internal saphena vein was varicose from the inner side of the knee to close to the ulcer. The skin around the latter was indurated, reddened, and very tender. His foot swelled at night after his day's work. I excised about eight inches of the vein. The wound healed by primary union, except at the lower end, where a small slough came away. It was noted, the day after the operation, that the ulcer had a somewhat shrunken appearance, and the hitherto congested and tense surrounding skin had become wrinkled and shrivelled looking. He left the Infirmary cured fourteen days after the operation, and twenty-four days after admission. His leg has never felt stronger, his foot never swells at night, and he has no feeling of tenderness about the originally affected area. The cicatrix of the ulcer is perfectly firm, and the tissues around can be pinched up and wrinkled like the healthy skin in other parts. He complains of no "dull" deep-seated pain, nor of any other symptom that would indicate undue pressure or tension from any compensatory dilatation of the deep veins.

A second case was that of a young fellow, aged 23 years. He had most extensive varicosity of both internal and external saphena veins. I have not seen a worse case. On both sides the internal saphena vein, at its entrance into the saphenous opening, was dilated into a cyst-like pouch, and from this point downwards to the ankle, the vein was extremely tortuous and



dilated. The same may be said of both external saphenas—they too were varicose throughout their entire length. His chief complaint was the fatigue and weariness which he soon experienced after any exertion. He was admitted into the Glasgow Training Home for Nurses. I there removed from each leg three separate masses of varicosed veins, and in both cases a piece of the internal saphena vein was excised from close to the saphenous opening. The patient left three weeks after the operation. I heard from him a year later, stating how well he felt, and that he was able to swim, a thing he had not been able to do for some time. A third case is at present in the Infirmary. He is a man, aged 60, and was admitted with varicose veins and ulcers of both legs. After a short but sufficient course of massage, I operated upon him nine days ago. A piece of the internal saphena vein, about four inches in length, was removed from the inner side of the left knee, and another piece about the same length from the calf of the right leg. He has not had a symptom since the operation, and his wounds have remained untouched. After the excision both the ulcers and the surrounding skin showed that marked improvement noted in the first case. So far, I can only allude to this case as showing the comparatively little disturbance set up by the operation, but I doubt not the result will be such as that already seen in the patient exhibited.

As illustrating the permanent good effected by entirely removing the disturbing influence of a varicose vein, in a case of chronic ulcer associated with such a vein, I may instance the case of a man, aged 53 years, who was admitted under my care some few months ago with a small callous ulcer on the *outer* side of the ankle. On the inner side of the leg, at its lower part, was a sound well organised cicatrix. This the man told us was the seat of a troublesome ulcer many years ago. At that time it frequently broke down, healing, and then opening again. He came under Sir Joseph Lister, then Mr. Lister, who injected into his large vein some pure carbolic acid. Since that time, now twenty years ago, he had never been troubled with the ulcer opening again.

Successful as was this method of treatment, in this particular case, it is not a practice much in vogue among surgeons of the present day, nor, I may add, is the somewhat similar practice of the injection of perchloride of iron. The cogent objection to these and all other methods is that they are too limited and uncertain in their action upon the vein. Nothing short of a comparatively extensive excision of a varicose vein or veins can be deemed sufficient, and the more completely this is effected, the nearer will be the approach to a radical cure. Against this method of treatment is alleged the severity of the operation for

an affection in itself not dangerous. Without wishing in the least to minimise any dangers that may exist, yet I believe with all due proper antiseptic precautions there is no more danger in this operation than in many others which we recognise as expedient, though not necessary. My last two cases comprise men of ages respectively 55 and 60. Their temperatures did not waver a degree, and they were completely free from all symptoms. I do not say that every case of varicose veins would be a suitable one for operation, and certainly upon none would I operate before getting the parts into a healthy condition. To attempt to excise a vein where extensive œdema exists, where the skin is eczematous, where the ulcer, if present, is foul, where there is suppuration or any active inflammation, erysipelatous, or otherwise, is only to run unwarrantable risk, and court failure. I fear much of the disrepute into which this operation has fallen since its introduction by the late Mr. John Marshall in 1875, has arisen from want of proper attention to these important preliminary details.—*The Glasgow Medical Journal*, March, 1892, p. 182.

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## DISEASES OF BONES, JOINTS, MUSCLES, &c.

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### 37.—THE TREATMENT OF FRACTURES OF THE HUMERUS INVOLVING THE ELBOW JOINT.

By LEWIS A. STIMSON, M.D., Professor of Surgery in the University of New York.

The importance of immediate and complete reduction of such displacement as may exist when the case comes under observation is such that whenever a reasonable doubt exists as to the extent of the displacement or the completeness of the reduction, an anæsthetic should be employed.

In *supra-condylar* fracture, in which the usual displacement is of the lower fragment backward and upward, permanent traction is usually necessary to overcome the displacing action of the flexors and extensor. This can be effected by vertical suspension of the limb, the patient being kept in bed, or by a weight suspended from the upper part of the flexed forearm while the patient is erect. The former is open to the objection that it permits an angular displacement, the lower fragment being inclined backward, and that it requires confinement to the bed; but there is no doubt in my mind of the advantages



that accrue from its use in the first fortnight after the injury ; this is especially true of compound fractures, for it diminishes the reaction, permits the usual bulky dressing that is so desirable for the protection of the open wound, and at the same time secures a more thorough and persistent reduction than can usually be maintained by splints placed over such a dressing. Suspension is made by strips of adhesive plaster placed along the front and back of the forearm and attached to the support by india-rubber cords, or a weight and pulley. In simple fractures the other method may be employed from the beginning, and in compound fractures after they have become simple under suspension. An efficient procedure is to encase the limb in plaster-of-Paris from the hand to the axilla, with the elbow at a right angle, support the wrist by a sling, and suspend a weight of not more than five pounds from the flexure of the elbow. If swelling is feared, the encasement may be limited to the forearm and made continuous with anterior and posterior plaster splints along the arm.

In *inter-condyloid* fracture with marked separation, there is no practicable means surely to maintain reduction, and considerable limitation of motion is to be expected. The varying contractions of the muscles, the pressure of the enveloping fascia, increased by the swelling, and the impossibility of direct control of the fragments, combine to make the result largely a matter of chance. Experience with compound fractures in which the shiftings of the fragments could be recognised by sight and touch, has impressed me with the exceptional difficulties presented by this variety of fracture ; in one case (compound) I felt constrained to pass a long steel pin transversely through both condyles and the long projecting end of the upper fragment, for in no other way could they be kept in apposition. As even in simple cases the reaction is marked, complete encasement in plaster-of-Paris during the first week is dangerous, unless made so loose that its support is inefficient. I prefer a broad, heavy posterior plaster splint, extending from the axilla to the hand and covering about two-thirds of the circumference of the limb, the elbow being flexed at a right angle ; while hardening, it can be so moulded by pressure about the elbow that it will do much to maintain the fragments in place. Traction by a weight can be used as in supra-condylar fracture.

In fracture of *either condyle* the habitual method of treatment is by a posterior rectangular splint of metal or plaster, with the substitution in many cases of plaster encasement during the second week. The forearm is supported across the chest by a sling *at the wrist* (within, not outside, the splint), and the

dressings should be worn for about a month. Immobilisation in full extension of the elbow has been employed in order more surely to prevent the displacement that causes the gun-stock deformity, but the method has certain disadvantages that will probably prevent its general acceptance. There is sometimes a marked tendency to displacement forward and tilting of the fragment (internal condyle), and the swelling of the dependent hand often causes much discomfort. The latter disadvantage does not appear when the patient is kept in bed. It has seemed to me to be advisable in some cases to employ this method for the first ten days or a fortnight and then to substitute flexion at a right angle, hoping that by that time the fragment will have contracted adhesions that will prevent its easy displacement upward.

With fracture of either condyle is sometimes associated dislocation of the bones of the forearm and the fragment from the humerus ; this complication is more frequent with fracture of the internal condyle, the dislocation being backward and upward, and the head of the radius resting behind the external condyle. Under such circumstances retention may present special difficulties ; they appear to be best met by immobilisation, with the elbow flexed well within a right angle.

If the case is one to which the necessary time can be given, daily massage of the limb may be advantageously employed to hasten convalescence. It should be made very gently at first, and the pressure gradually increased. The sittings may occupy ten or fifteen minutes, and the rubbing should be from below upward. Care must be taken to avoid giving pain, either by too great pressure or by movement of the joint.

For the reasons already given it may in some cases be advisable to change the angle of flexion from time to time ; and in any case in which absolute fixation or great limitation of motion is expected, that attitude should be given to the joint in which, if stiff, the usefulness of the limb will be greatest.

*After-treatment.*—The length of time for which the splint must be worn is greatest—about six weeks—for the supra-condylar and inter-condyloid fractures, and about four weeks for those of either condyle. After removal of the splint the limb should, for a few days, be supported in a sling, and exercised in slight movements. If the increase of the range of motion under natural use should be slow, it may be hastened by passive motion or by special exercises, as by carrying a weight to increase extension and by india-rubber traction from the wrist to the shoulder to increase flexion.—*Medical News*, October 3, 1891, p. 389.



### 38.—ON THE OPERATIVE TREATMENT OF UNITED FRACTURES.

By OSCAR H. ALLIS, M.D., Surgeon to the Presbyterian Hospital, Philadelphia.

The surgical methods undertaken to secure bony repair are : (1) to stimulate reparative action without penetrating the seat of fracture ; (2) to stimulate reparative action by means of irritants carried to the seat of the injury ; (3) to boldly expose the fragments and reunite them by means of artificial agents.

I shall confine my remarks to the last head.

Operations that expose the fractured surfaces vary in degree. The simplest method of uniting the bones is by means of wire. A small awl or small chisel is usually carried to the seat of injury, and the ends of the bone thoroughly scarified ; a wire is then introduced. In cases so treated the fragments sometimes unite firmly, but it is not that the wire plays any part in fixation. It is rather that the wire by its presence keeps up the inflammatory process so necessary to adequate bone-production. Such cases get well on the principle of the seton, not by the law of fixation by wiring.

The wires are best used in non-union of bones of the forearm and leg. In the arm and thigh, in which we have but single bones, the wire is of little value as a means of fixation. When wires are used to fix the bones of the forearm, the best results are obtained when the wires pass entirely through each fragment. Under these circumstances the bones are so securely fixed that union is almost certain to follow. In such operations it is well to approach the radius and ulna by separate incisions, and thus avoid communication between them. By this means bridges between the radius and ulna may be avoided, and function restored with pronation and supination. The wires may be retained for two months. I use copper wire—a single strand, soft, pliable, but strong enough to hold the fragments.

I have never employed pegging by means of ivory or bone pegs. Theoretically it is a captivating thought to peg fragments with a material that will be absorbed—to close the wound and secure union by first intention. Practically the pegs act as foreign elements, and are not absorbed ; suppuration takes place ; fixation is not satisfactory ; and if success follows, it is not due to the pegs.

Nothing can compare in efficacy with the screw as a means of fixation. In some form it has long been familiar to the profession. The elder Pancoast invented one that, from its size and character, was intended (1) to pierce the fragments without preliminary incision ; (2) to bind them together ; (3) by its

presence to excite adequate inflammatory action. As the application of the screw was subcutaneous, it was uncertain in its action ; and, as there was a thread the whole length, the fragment could not be approximated after the screw had taken hold of both fragments. I am familiar with its use in two cases. The first occurred when I was surgical interne at the Philadelphia Hospital. Dr. Maury employed it in non-union of the femur in the upper part of the middle third. The resulting inflammation was considerable, and before the screw was withdrawn repeated hemorrhages of a serious character took place. Bony union was finally established with about three inches of shortening, and the patient, a man in the prime of life, was restored to active manual labour. In the second case the elder Gross employed the screw in the case of a man, aged about forty-five, with non-union in the middle third of the humerus. Union took place with almost complete paralysis of the forearm, probably due to injury of the musculo-spiral nerve.

Volkman has called attention to the bridge-splice, a means of splicing long familiar to mechanics. I have performed the operation twice, and in each instance secured bony union ; but I shall not employ it again, because the result represented is unattainable. The carpenter, with rule, gauge, squares, mitre-boxes, and vice, may take two independent pieces of wood and so mortise them as to secure close joints and linear perfection, but the surgeon who makes three independent cuts in each fragment, held at best only in the grasp of an assistant and shaking with each forward and backward motion of the saw, finds that he has no possible guide but his eye, and must not be surprised if his best effort fail. In my second employment of the bridge-splice, I encountered a difficulty that gave me much uneasiness, though the result was satisfactory. In this case non-union in the lower third of the femur had resulted, and, after making my splice and inserting my screw, I was annoyed to have one fragment slip from its fellow. This I could not prevent, but the final result was satisfactory.

Since this mishap I have confined my efforts to the simple bevelled splice in single bones, *i.e.*, in humerus and femur. It gives the best surface-approximation ; it exposes the least amount of bone surface ; it is more easily executed ; and with it, when either one or two screws are used, the approximation is more satisfactory than can possibly be obtained with bridge-splice and pegs.

I have been using carpenter's screws for about four years. I was induced to adopt them from the fact that screws long enough to project from the wound, like those of Pancoast and Gaillard, were unnecessarily irritating. I select slim steel screws sold at hardware shops, and am guided as to their



length by the size of the bone and the obliquity of the screw-holes. *The hole for the screw in the proximal fragment should be so large that the thread will not get a hold upon it. The screw-hole, however, in the distal fragment should be small, so that the screw will gain a firm hold.* With a screwdriver I then drive the screw down until the parts are firmly together—sometimes using two screws, sometimes one. I do not usually attach fine wires to the screws to enable me to find them. The screws, as a rule, are gradually forced from their beds by the reparative process, and can usually be picked from the surface of the bone after two months. I rarely need more than a pair of dressing forceps to remove the screw. After it is removed, the sinus, which has persisted throughout the entire course of treatment, soon closes without any evidence of partial necrosis that would be supposed to follow the use of the screw.—*The Medical News, January 21, 1892, p. 2.*

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### 39.—ON PERMANENT SUBCUTANEOUS SUTURE OF THE PATELLA FOR RECENT FRACTURE.

By ARTHUR E. J. BARKER, F.R.C.S., Surgeon to University College Hospital.

In the last four cases of simple transverse fracture of the patella which have come under my care I have employed a method of suture which has yielded such excellent results that I venture to think it deserves a wider trial. It may be described at once as a method of permanent subcutaneous suture suitable only for recent fractures.

All four cases suffered from simple transverse fracture of the patella, and all were operated on within the first twelve hours after the injury, therefore within the period during which the blood effused into the joint is still fluid as a rule. The operation is performed as nearly as possible as follows: Every precaution having been taken to secure perfect asepsis, the lower fragment of the patella is steadied at either side by the left forefinger and thumb of the operator, who stands on the right side of the patient. A narrow-bladed knife is then thrust into the joint edge upwards, exactly in the middle line of the ligamentum patellæ at its attachment to the lower fragment. As this knife is withdrawn cutting upon the lower edge of the latter the skin wound is slightly enlarged to about two-thirds of an inch. Through the wound thus made a stout handled pedicle needle is thrust into the joint behind the lower fragment, and is pushed upwards behind the upper fragment and through the quadriceps

tendon in the middle line as close to the border of the bone as possible. The upper fragment at this moment should be forced down and steadied. When the point of the needle is seen under the skin the latter is drawn upwards, and an incision is made upon it and for two-thirds of an inch downwards to the edge of the patella, the knife entering the joint in the middle line over the needle. The eye of the needle is now threaded with stout perfectly sterilized silk or wire, and is withdrawn, carrying the thread of course behind both fragments. The needle, again unthreaded, is now passed through the same skin wound below and out of the upper wound, but this time in front of and close to both fragments. Here it is threaded with the other end of the suture, and is withdrawn. The thread now forms a loop over the upper border of the upper fragment, both ends hanging out of the lower wound, one arm of the loop passing, of course, behind and the other in front of both fragments. The upper fragment is then forced downwards by an assistant until its broken surface touches that of its fellow, against which it is rubbed by lateral and antero-posterior movements until it is felt that any blood clot or other material is dislodged, and they are both in position and grating. The operator then pulls firmly upon the suture, and ties or twists its two portions upon the lower border of the patella. The projecting ends are then cut off, and the small skin wound closes over the knot. Neither of the wounds above or below the patella requires drainage or suture; they are simply covered with an antiseptic pad; the whole joint is then enveloped in salicylic wool and evenly bandaged, and the limb is put on a long back splint. When the wounds are made into the joint, as much blood and clot are squeezed out through them as possible. In Case 3 I thus evacuated eight or ten ounces with ease. It is important that the edge of the knife should cut upon the upper and lower edges of the patella in making the two punctures, so that the suture may embrace the fragments of bone closely without any intervening fibrous tissue, and that the contact of the broken surfaces may be firm and remain firm.

In the first three cases I operated on by this method I used silver wire, and have no cause to regret it. But though the results left little or nothing to be desired, as you have seen, it occurred to me that stout silk would be quite as good, and might perhaps not be open to some of the objections raised to wire, such, for instance, as leaving a rigid knot on the front of the ligamentum patellæ.

The after-treatment consisted in keeping the patient in bed, with an ice-bag over the knee until the skin wounds were healed, which took place in all under one dressing and without a drop of suppuration. At the end of eight or ten days the splint was



removed, and the patients were allowed to move the knee a little while in bed. After the lapse of a fortnight they were allowed to sit up a little with a splint on, which was removed on returning to bed. In none of the cases was there anything to give cause for anxiety in the course of the case, and at the end of five weeks all were able to walk firmly, and no trace of the line of union in the bone could be made out.

In future cases I think I should begin passive movement even earlier and carry it out daily, gently, and methodically. Knowing now the strength of the suture, and that it gives rise to no irritation in the joint, I should not fear the strain put upon it, and should expect an earlier restoration of perfect function.

Three objections may be urged to the procedure now described. First, that the suture may give trouble in the joint, inasmuch as it lies in the axis of movement. However, we need not expect this, and, as a matter of fact, none of the four patients treated by it are conscious of the presence of the suture in the joint. Next, the knot might possibly cause pain in front of the knee, but this has not been the case with any of these patients. Lastly, the joint has to be opened and transversed by a needle. But in answer to this objection it may be urged that this is no more than what is done in aspiration, which has been long recognised as a perfectly safe procedure in the hands of careful surgeons.

From the numerous efforts that have been made of late years to perfect the methods of suture of the patella, and the fact that so far none of them has come into general use, it may, I think, be safely predicted that surgeons will not rest until at last some simple plan of operation is devised which will ensure perfect coaptation of the fragments in recent fractures with little or no risk (*a*) as to infection of the joint, (*b*) as to subsequent separation of the fragments, (*c*) as to residual stiffness. This procedure, whatever it be, must be so simple as to require no extraordinary skill on the part of the surgeon. It must be so safe as to justify its being used at once for all recent fractures without hesitation. It must give such good results as to function as to outdo everything that has been achieved through treatment by splints.

Whether the method I have here described is a step in this direction or not time only can show. But having myself operated by the open method on other cases, and so far with successes and no failures, I am in a position to contrast several of the plans in use, and can say that, were I to fracture my own knee-pan, I should prefer to have it treated by the permanent subcutaneous suture rather than any other.

I have hesitated to refer to this procedure as a new one; it may have been employed by others without my having been

able to discover the fact after careful search and inquiry. But the question is not whether it is novel, but whether it is good, and if other surgeons have ever employed it I shall be greatly interested to know whether they have been as favourably impressed by it as I have in the results of these four cases.

I have just examined a fifth case in which I operated a week ago (February 2nd) by the same method. The joint is quite quiet, and I have already commenced passive movement. The whole procedure only lasted four and a half minutes.—*British Medical Journal*, February 27, 1892, p. 425.

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#### 40.—ON MASSAGE OF FRACTURES AND SPRAINS.

By KENDAL FRANKS, M.D., Surgeon to the Adelaide Hospital, Dublin.

The first case of fracture in which I employed massage was a case of a transverse fracture of both bones of the leg, about the junction of the middle and upper third, in a boy aged ten. The method I adopted was this :—The limb was placed on a straight posterior splint, and it was fixed to this by a many-tailed bandage. Every day the many-tailed bandage was undone without disturbing the limb or removing the splint, and the limb from the toes to the knee was systematically massaged. I was surprised to see how soon gentle but firm pressure could be tolerated, both above and below the seat of fracture; very gentle pressure was exercised over the region of the fracture itself until union was well advanced. The boy was able to put his foot to the ground before the end of the third week, and was able to walk without the help of a stick or crutch before the fourth week was ended.

One of the most important functions of massage in these cases is this, that it supplies mechanically the squeezing force to the lymphatic channels which the muscular contraction ought to supply were they able to do so. But it does more than this. I believe it breaks up and disentangles the blood clots, and forces them into the lymphatic vessels. It exerts the same power over the lymph, blood plasma, and waste products, and thus prevents the formation of adhesions which would otherwise occur. But experience shows that it does much more: it stimulates the circulation in the part, and thus hastens the process of repair—the rapidity with which a properly masséed fracture unites is very remarkable; it relieves pain. Some surgeons think that massage must necessarily increase the pain experienced by the subject of a fractured bone. This is not the case. Some forms of so-called rubbing undoubtedly would do



so, and in unskilful hands more harm than good might result ; but the argument now is in favour of massage properly performed. The pressure at first almost insensible, is gradually increased, and as the swelling subsides, and tension is relieved, a wonderful feeling of ease and comfort is produced. I speak from very personal experience, as I shall immediately explain.

In such cases as this the chief thing gained by resorting to massage is an economy of time. This case was fracture of both bones of the leg, and the boy could walk without assistance between the third and fourth week. I think we may say the period of recovery was reduced by one-half.

In fractures in the vicinity of joints more than a saving in time is effected. It prevents the joints becoming stiffened, or their subsequent movements being impaired by the formation of adhesions. This is of far greater importance even than the economy of time. I will quote just one illustration, because in this case massage was not employed until 18 days had elapsed since the receipt of the injury. It was a case of Pott's fracture of the lower end of the fibula, with dislocation outwards of the foot, and complete rupture of the internal lateral ligament of the ankle-joint. The deformity was reduced in the country, and the limb put up in a Dupuytren's splint. He was not sent up to the Adelaide Hospital until nearly a fortnight had elapsed. The man was aged thirty-two. The parts were in excellent position, but the ankle-joint and foot were swollen, and tension and pain were extreme. On the 19th day massage was begun—the splint being removed for the purpose, and re-adjusted immediately afterwards. The time occupied on each occasion was from twenty minutes to half an hour. On the 18th day of this treatment—that is, on the thirty-sixth day from the receipt of the injury—the patient was able to put his foot to the ground, and five days later he could walk perfectly without a limp. The joint was freely movable and quite painless. This case illustrates that by recourse to massage not only is the time expended in treatment materially shortened (in this, the duration from the date of the accident being just forty days), but that the restoration of the functions of the parts is more perfect in the time than can be obtained by any other method of treatment with which I am acquainted.

In compound fractures I have not employed this method, nor do I think it would be advisable to make any such attempt, unless we were first able to secure complete asepsis of the injured parts and healing of the wound. Neither have I tried it in fractures of the patella or olecranon.

In dealing with sprains I have found no treatment to be compared with massage for the relief of pain, for the rapid reduction of tension and swelling, and for the quick restoration

of all the normal functions of the parts. I could quote a large number of cases in support of this assertion, but I shall content myself with one which to me has this particular point of interest, that I was myself the sufferer, and consequently experienced in my own case the results immediate and remote of this method of treatment.

On the 15th of April, 1890, as I was running downstairs in the evening, I tripped and fell, spraining the right ankle badly, and partially dislocating the astragalus forwards. The pain was intense, and was followed by severe rigors, lasting for nearly two hours. Next morning the dislocation was reduced by Mr. Philip C. Smyly. Massage was begun twelve hours after the receipt of the injury, and was repeated twice a day for a fortnight. The swelling had completely disappeared in three days. In ten days I was able to walk without a limp, so that it would have been impossible to tell by the gait that the ankle had been recently injured. At the end of a fortnight I had so well recovered that I resumed all my work, and massage was discontinued. During this period no other treatment was used, except the support of an elastic bandage round the ankle whilst walking.

In contradistinction to this result, I would mention the case of a lady who consulted me on the 17th of May, 1890. She had jumped out of a carriage on the 20th of January, and sprained her ankle. It was treated by leeching and rest at first, then by the application of a starch bandage, and subsequently by liniments, lotions, and bandaging. She had not been able to put her foot to the ground for ten weeks, and when I saw her first, nearly four months after the accident, she walked with considerable difficulty and pain. There was then no swelling, but all the movements of the joint were greatly restricted. I advised massage, and at the end of three weeks she was quite well and able to walk without pain or the slightest limp.

I need not multiply examples, but I may say generally that experience has shown me that in sprains, if taken in hands at once, a cure may be effected in from ten days to a fortnight; slight sprains in even a few days; but even in severe sprains, although some weakness may continue for some weeks, the power to walk freely and painlessly is restored in a short time, rarely exceeding a fortnight. If the treatment be delayed until adhesions have formed, massage will be required for a longer time; and if the adhesions have had time to become firm, it may be necessary to rupture them under an anæsthetic before massage can be expected to be of much avail.—*The Dublin Journal of Medical Sciences*, November, 1891, p. 343.



## 41.—ON SYPHILITIC SPONDYLITIS IN CHILDREN.

By JOHN RIDLON, M.D., New York.

Syphilitic spondylitis differs in no way from syphilitic joint-disease located elsewhere, except as it is modified by its peculiar surroundings. In the superficial joints, where the infiltration of the soft parts and bone can be readily seen and felt, the onset of the disease is very slow, and months may pass before pain is complained of or disability becomes serious; but in the spine, where the lesion is located in and about the anterior surface of the vertebral bodies, far beyond sight and touch, the slow advance of the early symptoms escapes recognition and the onset appears to be comparatively rapid. On any motion the distant pain is complained of, and sometimes within a few days the patient is unable to stand without support. If located in the dorsal region, the kyphosis soon appears with a sharp angle, formed of but one or two spinous processes, and with a long sweeping curve above and below. In the lumbar region the kyphosis is slow to appear, often not appearing until marked psoas-contraction can be made out, and perhaps not until an abscess has formed; but lordosis is an early and well-marked symptom.

When the disease is once established, it seems to follow the rule of all syphilitic lesions, and is a cumulative process rather than one of degeneration—it is hyperplasia rather than a molecular disintegration. When a certain point has been reached, resolution takes place, or the new tissue dies and an abscess rapidly forms. If the abscess can be evacuated under favourable conditions the disease often goes on to a rapid and complete recovery. Abscesses that are not within reach will almost invariably undergo rapid resolution when, under the influence of the mercurials, the patient is once well.

If no syphilitic history can be obtained from either parent, and if it cannot reasonably be suspected, an examination of the spine alone may not be sufficient to warrant the diagnosis of syphilis. Other things must then be taken into consideration; for, although a syphilitic spine may, and no doubt does, often exist without there being or having been other syphilitic lesions, the presence of such lesions is evidence of such value that the patient should always be carefully examined.

Spondylitis in very young children, that is to say, under three years of age, and spondylitis associated with chronic disease of some other joint, or in another portion of the spine separated by a healthy area, is in my experience more often syphilitic than tuberculous. Such cases always repay a careful examination and a strict watch for the appearance of other

syphilitic manifestations, namely nasal catarrh with the formation of reddish-brown crusts, suppurating otitis, corneal opacities, interstitial keratitis, Hutchinson's teeth, periostitis, cutaneous eruptions, and sores about the anus and genitals. In my experience, the most common associated symptoms have been the bone and joint-lesions at some distant point, and the least common have been the skin-eruptions.

The treatment of syphilitic spondylitis should be both mechanical and medicinal; but the mechanical plays by far the less important part, and rest in bed or on some form of portable bed will be found to be more demanded than braces. Rest in the recumbent posture during the painful stage is absolutely essential, while the application of specially devised apparatus may be looked upon more in the light of a luxury rather than a necessity. The medicinal treatment consists of mercury and iodine. Large doses should be used: if the stomach will tolerate it, as much as one-thirtieth to one-twenty-fourth of a grain of the bichloride or biniodide, with from five to forty grains of potassium iodide three or four times a day. If the stomach proves irritable, mercury with chalk in from three- to five-grain doses, with inunctions of blue ointment, are advisable. Tincture of iodine in from one- to ten-drop doses may be given. It will be found that these children usually bear these medicines in as large doses and as well as do adults.—*Medical News*, October 17, 1891, p. 454.

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#### 42.—MORBUS COXÆ, WITH DESCRIPTION OF A NEW BED.

By E. STANMORE BISHOP, F.R.C.S., Honorary Surgeon to the Ancoats Hospital, Manchester.

The problems which any surgeon has to face, when called upon to treat a case of morbus coxæ, will vary greatly. In some the tendency to recovery, as Thomas of Liverpool used to say, is so great that mere protection from further harm is all that is necessary. The patient has a good family history, is in every other way in good health, until the fall or other accident happened which produced the synovitis or osteitis. A short rest, protection against repetition of the injury, and some slight medication, and the boy is as well as ever. Varying combinations of injury and constitution produce varying results of lighter and graver kind, the character of the constitution appearing to have the strongest influence in the modification; more and more difficult becomes the struggle for recovery, until in some extremely strumous children the merest knock or



tumble appears sufficient to light up a persistently progressive disease which ends in death or permanent and very marked lameness. Of course, the measures required must equally vary. In the lighter cases the most that is required will be a light Thomas's splint, with patten and crutches. The little patient can go about almost from the first. He can benefit by fresh air and a slight amount of exercise. There is never a hint at suppuration, and bedsores are not dreamed of; therefore all through its duration there has been nothing extraneous to lower the vitality or decrease the chances of recovery. But it is far otherwise with the more delicate cases. It is another exemplification of the old text: "To him that hath shall be given, but from him that hath not shall be taken away even that which he seemeth to have."

From the first the often comparatively slight injury has acted like a spark amongst shavings. Rapidly the inflammation increases; every slight movement gives great pain, and causes fresh and increased irritation. The little patient is racked with the constant suffering, and weakened by the feverish reaction. It is imperative that the joint shall rest, and that absolutely, but the skin is so sensitive and so lowly vitalised that continual rest in bed produces bedsores, and the pressure of an iron splint is unbearable. Moreover, to children of this age perfect rest in one position is the acutest misery. But if this is bad, the next stage is infinitely worse. A large abscess forms in or around the joint, with disintegration of the femoral head or the acetabulum, or both. It is necessary to remove the necrotic or carious bone, and to provide free exit for the abundant pus. At the same time it is imperative that the large cavity produced should be kept aseptic, or septic fever or pyæmia will certainly carry off the patient, already so greatly enfeebled. But the opening which has to be made is at the very centre of the body, and close to the two main emunctories, and the dressing of the wound is painful, and almost necessitates the lifting of the patient, when movements at the very spot which should be most immovable will certainly take place. Sooner than call attention to himself and risk the repetition of the dreaded dressings, the child will lie with its excretions soaking into the coverings of the wound; and it requires the most careful nursing to prevent this. Careful nursing may, and doubtless will, do much to obviate the danger; but it cannot prevent the pain endured at every dressing or cleaning, nor the ever-recurrent dread in which the life of the child is passed at this time, when of all others, for the best chance of its recovery, its mind should be at ease. And to add to all this, one of the best helps to the child's recovery is fresh air and this is almost, if not quite, unobtainable. To dress the wound sufficiently often

to secure asepsis without pain or movement at the diseased part, to permit of the performance of the natural functions without danger of soakage of decomposable or decomposed material into the cavity produced by operation, to keep the bones of the trunk and lower limb in their relative position whilst permitting the area of pressure to be varied from time to time, or even, if possible, occasionally allowing the patient the upright position—these are the problems which every surgeon tries to solve who has to treat one of these severe examples of morbus coxæ. And the appliances at present in use do not assist him greatly. Some—most—are effective only so long as the patient lies supine, the bed itself forming an integral part of them ; so that the difficulties arising from decubitus are not to be thus overcome. Some are too heavy, and some must be removed at the time when they are most required, during the change of dressings. To assist in solving the difficulty I have devised a bed which is pivoted, the pivots at each end resting upon upright standards, which with the framework beneath form its support and hold it at a convenient height from the ground, so that the patient shall be on a level coincident with the surgeon's chest. When the child is laid supine its chest is comfortably held by flexible bands, which are fixed below to the bed itself and united in pairs above. Its legs lie each in a separate channel, which is suitably padded. The sound extremity has its foot firmly braced against a wooden block, which can be fixed at any point, whilst the affected limb has an extension apparatus applied, the chord of which passes through an eyelet on the lower arc, and is connected with a weight, which acts in any position of the bed. The hips rest each upon a pair of trap-doors which open downwards, and allow free access to this part of the body. The traps beneath the sound hip are always bolted, and maintain in conjunction with the extension, the body and the diseased limb always in the same plane, whilst the unsound region can be reached with comfort, dressed or cleaned with ease, and without discomfort to the patient.

As the bed is pivoted, it is easy to see that it is capable of alterations in positions so that the plane of pressure can be constantly varied. This is usually done by turning the bed so that one of the perforations in the upper pivot coincides with one of those in the standard, and fixing it at that angle by a steel pin ; but if greater range of movement is required, a worm-and-wheel movement is attached, which renders it practically unlimited. In any case, there is no alteration in the relative position of parts operated upon, as the whole body is moved at one time. When the case is sufficiently advanced to permit of the upright position, the lower arc and the extension can be removed, and the entire bed placed against the wall in



an almost vertical position. The patient then resting his sound foot on the block, and secured to the bed by the chest and hip bands, has extension going on by the weight of the unsound leg, and is in practically the same condition as if he had a Thomas's splint and patten applied. Several severe cases have been treated by its means in the Ancoats Hospital, and in every instance with success, whilst the comfort to nurses and surgeon, and the freedom from the distressing scenes formerly so common, have been most marked. But whilst this bed was originally intended for the treatment of severe morbus coxa, it is extremely useful for other purposes, such as the treatment of fractures of the lower extremity, and for any case in which the supine position has to be maintained for any length of time.

These beds are now made by John Carter, 6A, New Cavendish Street, Portland Place, W.—*The Lancet*, March 12, 1892, p. 575.

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#### 43.—ON A FORM OF PAINFUL TOE.

By L. G. GUTHRIE, M.B., M.R.C.P., Assistant Physician  
to the North-West London Hospital.

The intense suffering caused by this complaint, and the prompt and certain relief which may be obtained by suitable yet simple treatment, lead me to record my own experience of a special form of painful toe. Both in symptoms and pathology the complaint is identical with that to which Dr. Auguste Pollosson, in 1889, gave the name "anterior metatarsalgia." Only in the latter the metatarso-phalangeal joints are affected, whilst in the former the distal phalangeal joints are alone involved. In order to avoid a more cumbrous designation I have called the former affection "a form of painful toe." In either case, under the influence of prolonged standing or walking in tight boots, the ligaments of one or more joints, metatarso-phalangeal or phalangeal only, become strained, slight subluxation takes place, the nerves are stretched and pressed upon by the partially dislocated bones, and the characteristic pain is produced. The pain occurs suddenly, and with a sense of something giving way at the site of the joint affected. It is relieved by taking off the boot and gently pressing the displaced bones into proper position. The reduction is always accompanied by a sharp twinge of pain, followed by instantaneous relief. I have only met with one case of the major affection. It was that of a tramcar conductor, who suddenly developed the symptoms, and had suffered from them for three months. The pain was under the head of the third metatarsal bone, and he could relieve it by taking off his boot, flexing his toes whilst

pressing gently with his finger on the site of the pain. His occupation prevented him from carrying out this treatment as often as he desired, so I directed him to wear a boot with a very broad sole, slightly convex on the upper surface, so as to support the sunken head of the third metatarsal bone, and with plenty of room across the base of all the toes. This treatment proved thoroughly satisfactory. The following are cases of the minor but similar affection—painful toe.

*Case 1.*—In the autumn of 1883, after a long day on duty as hospital dresser, I walked through the wet streets to the opera. The theatre was crowded, and I had to stand throughout the performance. Towards the close I suddenly felt most severe shooting and burning pain in the fourth toe of my left foot. The boring of a hot iron into the flesh might have caused similar pain. It extended up the nerves of the outer side of the foot and leg into the sciatic, with a numbing, sickening sensation. I limped home, with dismal misgivings lest I had fallen a premature victim to gout; but on taking off my boot I discovered that the last phalanx of the fourth toe was over-extended, whilst the head of the second phalanx was slightly displaced downwards. Reduction caused a sharp twinge of pain, followed by immediate relief. From this time for many months I was constantly liable to these attacks of pain, especially in hot, damp days, after standing or walking for any length of time. I learned to reduce the dislocation and obtain relief by treading heavily on the empty part of the toe of my left boot with the heel of my right, and then forcibly drawing the left foot back within the boot, at the same time elevating the toes against the “uppers.” Both the displacement and the reduction were accompanied with a distinct click. This manœuvre became necessary with more and more frequency, and the pain increased in severity until I had serious thoughts of having the toe amputated or the joint resected. At last, with the happy inspiration of Mark Twain’s hero, who after twenty years’ confinement opened his cell door and walked out, I discovered an equally easy means of escape. My boot, though quite comfortable when first put on, became too tight across the toes as soon as the foot became at all congested. Under this condition the last phalanges became jammed and fixed together, whilst the relaxed ligaments of the second joint of the fourth toe allowed the head of the second phalanx to drop and press painfully upon the nerves. I ordered a boot with plenty of room for lateral expansion of the toes, and I was at once freed from the attacks of pain which made my life a burden.

*Case 2.*—A gentleman recently consulted me on what he believed to be a soft corn between the fourth and little toe of the right foot. On examination I could find no trace of the



soft corn, but infantile paralysis had left his foot with slight talipes varus and marked pes cavus. The great toe was hyper-extended and pointed outwards at an acute angle from the metatarsal joint. The rest of the toes were crushed together in the form of a cone ; the fourth toe was laterally flexed, and almost hidden beneath the third. The calf muscles were wasted, and the limb was nearly three-quarters of an inch shorter than the other. To counteract the shortening he had worn for many years an extra three-quarter inch heel inside his boot. The sole was not similarly raised, so he was compelled to walk in a downward plane, forcing his toes together at each step into his somewhat pointed and short boot. He suffered no inconvenience from these deformities until the beginning of the year 1891, when he acquired the habit of walking on the outside of his foot, bearing especially on the outer side of the little toe, in order to avoid resting his full weight on the ball of the great toe, which was unduly prominent and tender. In July, 1891, during a long walk, he was suddenly attacked by acute pain in the little toe. The sensation, he said, was as if a hot fusee were placed between his toes, and were burning slowly outwards through the little toe. From that time until I saw him three months later, he had been constantly subject to these attacks of excruciating pain, and they had so increased in frequency and severity that he said he would have his toe amputated at once if he could not otherwise obtain speedy relief. He could wear a loose slipper with comfort, but on walking in a boot for even a few yards the pain occurred. It was not relieved by taking off the boot, but he showed me how, on gently pressing the tip of the little toe outwards, the pain instantaneously ceased, the manœuvre being accompanied by an extra sharp twinge of pain. Obviously his suffering was due to slight inward displacement of the last phalanx of his little toe, and consequent stretching and compression of the nerves between the displaced bone and the adjoining toe. The treatment in this case was not so simple as in my own, owing to the various deformities of his foot. But to make the story short, complete relief was obtained by a boot contrived on the following principles : Plenty of room was given across the toes, the little toe being especially relieved of all pressure. The outer side of the fore part of the sole was raised, and the heel lowered, so as to throw his weight from the outer to the inner side of the boot, and to prevent forcing of the toes together. A graduated depression was made beneath the ball of the great toe, in order to avoid walking on the downwardly displaced head of his first metatarsal bone.

*Remarks.*—These cases form additional links in the chain of evils attendant on wearing boots too tight across the toes.

Patients will be probably loth to admit that a form of boot to which they have always been accustomed, and which they have regarded as both comfortable and elegant, can be the cause of their sudden attacks of pain. And the latter they will readily attribute to gout or rheumatism; for to the non-professional public, pain in a toe means gout, and pain elsewhere in a limb means rheumatism. Not only do the paroxysms of pain strongly resemble those of gout, but it is possible that the strained and unnatural position into which many force their great toes may account for the prevalence with which those parts become the primary seat of true gout.—*The Lancet*, March 19, 1892, p. 628.

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#### 44.—ON MALIGNANT DISEASE OF THE SPINE, SIMULATING POTT'S DISEASE.

By A. B. JUDSON, M.D., New York.

I have seen three cases at least, in each of which malignant disease of the vertebræ was supposed for a time, by myself and other observers, to be Pott's disease. The first case occurred in 1884. When first seen, the patient, a boy aged four years and eight months, walked with a stiff gait and stooped carefully. Pain in the back and abdomen, the chief symptom, had been present two months or more. There was very slight, if any, projection, but I made a diagnosis of incipient Pott's disease at the first or second lumbar vertebra. When I saw him again, twelve days later, he had been in bed for six days, without motion or sensation of the lower extremities. A brace had been made for him by another observer, but the patient had been too ill to present himself for treatment. He still complained of pain in the back. Pulmonary and urinary troubles intervened, and death occurred ten days later. At the autopsy no caries was found. There were numerous sarcomatous growths springing from the dorsal vertebræ and some of the ribs. They varied in size, the largest having a diameter of two and a half inches. This growth had also invaded the vertebral foramina.

In 1885 I examined the second patient, a man aged thirty-five. It was thought that Pott's disease might be the cause of certain symptoms which had led to a previous diagnosis of renal calculus. The patient was almost entirely disabled. He could with difficulty get upon or rise from the bed. Pain in the lumbar region and in the thighs was the chief symptom. Duration about one year. The normal spinal curves were unbroken. I eliminated Pott's disease, and suggested possible



malignant disease. He died five months later. I am informed that morphine was used till the last, and that malignant growths were found attached to the vertebral column, and in the lungs and diaphragm.

In 1890 I applied a spinal brace in the case of a man aged forty-two, who was paraplegic from supposed Pott's disease of two years' duration. At the eighth dorsal vertebra there was a slight but distinct angle. There was persistent fecal and urinary incontinence. It was thought best to try thorough mechanical treatment before opening the vertebral canal for the relief of the paralysis. No improvement being seen after ten weeks, the canal was explored by an operation which the patient survived but a few days. A sarcoma was found, the presence of which had not been suspected. Inspection was not carried farther.

Considering these cases, we are especially interested in the question of diagnosis. The two mistakes here reported would have been avoided if we had waited till kyphosis appeared ; but an early diagnosis is always desirable, especially when the lower regions of the spine are in question, where the vertebral bodies are large, and where caries might exist a long time before the natural curves are broken. In none of these cases was there marked projection. In one the spinal curves were normal. In the other my notes contain the expressions : "Very slight, if any, projection," and "eighth dorsal vertebra shows a slight but distinct angle," words which may leniently be reviewed as intended to record suspected points in the vertebral column, rather than important diagnostic indications.

In two of these cases was present the paralysis which has caused this affection to be chiefly known in medical literature as "paraplegia dolorosa." This form of paralysis may well add, as happened in the cases reported, to the difficulty of differential diagnosis. Aside from points of neurological interest, the features of these cases important to be remembered by us in future examinations, are the local pain and disability and the general reaction. All these patients were very ill, which cannot be said of most patients affected with Pott's disease. They all had severe pain and extreme disability in the back, which Pott's disease is so free from that, when we hear that there is pain in the back and spinal disability, the first thought is to eliminate spinal caries. It is strange, with the back virtually broken, as it is in Pott's disease, that pain and disability are not present and excessive. It is evident, however, that the recognition of these symptoms in a case of suspected Pott's disease should suggest at least the possible presence of an enemy still more intractable. These two affections are also different, in that in one

the advance is insidious, while in the other the onset is alarming and quite in keeping with its implacable nature.

In brief, the chief diagnostic points are the following:—(1) Deformity, present in Pott's disease, absent in malignant disease; (2) local disability, and (3) local pain, both absent in Pott's disease and present in malignant disease.—*New York Medical Record*, October 31, 1891, p. 533.

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#### 45.—THE TREATMENT OF ABSCESSSES IN POTT'S DISEASE.

By W. R. TOWNSEND, M.D., Assistant Surgeon to the Hospital for Ruptured and Crippled, New York.

I have studied during the past summer the histories of 380 consecutive cases of Pott's disease seen at the Hospital for the Ruptured and Crippled, New York, and in the private practice of Dr. Gibney and myself. In speaking of the cases no distinction is made between hospital cases and those in private practice, as the conditions varied so little. I have purposely omitted complicated cases, as of Pott's disease with hip, or knee, or ankle lesions.

Of the 380 cases, 75 were complicated by abscesses, and as the cases represented all stages of the disease, from the incipient case in which a positive diagnosis was scarcely possible to those that were convalescent and cured, we may say that about one case in five at some time during the disease develops an abscess. These figures vary somewhat from those given by Mohr, quoted by Bradford and Lovett, according to which, in 61 autopsies, there were 30 with abscesses, and in life, of 72 cases, 9 with abscesses. The abscesses were found connected with disease in the cervical region in 8 per cent. of the cases, in the dorsal region in 20 per cent., and in the lumbar region in 72 per cent. of the cases, which figures very closely correspond with those given by Michael and Parker.

We see by the foregoing that the problem most frequently presented to us is the treatment of abscesses connected with the lumbar region, and fully two-thirds of these are either in the pelvis above Poupart's ligament, or pass below the ligament and point in the thigh through Scarpa's triangle—the psoas abscesses.

Of late years the study of bacteriology has largely increased our knowledge of diseased processes, and shown that true inflammation is always caused by the presence of one or more kinds of pathogenic microbes. Semm (*Principles of Surgery*,



page 450), speaking of tuberculous abscesses, says: "I believe that it can now be considered as a settled fact that the bacillus of tuberculosis is not a pyogenic microbe, and that in the absence of other microbes it produces a specific form of inflammation which invariably terminates in the production of granulation tissue, and that when true suppuration takes place in the tuberculous product it occurs in consequence of secondary infection with pus-microbes."

Accepting the pathology as given, the treatment of the abscesses of Pott's disease seems to me more simple than some would have us believe. If the abscesses could be opened, thoroughly cleansed, all tuberculous material removed, any bone-detritus washed away, with no infection of the external tissues, and with perfect asepsis, then those who advocate opening every abscess would clearly have established their point; on the other hand, could it be shown that no trouble followed from extreme conservatism, then there would be no necessity for operative procedures. But whilst some cases do well, and the abscess seems in no way to influence the final result, others do badly, and the abscess is undoubtedly the cause of the patient's death.

Caseation and absorption of the liquid contents of the abscess are a more frequent result, I believe, than is generally supposed, and this may often be aided by means of aspiration, which, of course, is done with every antiseptic precaution. The operation is often very disappointing, owing to the fact that the needle soon becomes clogged and the abscess is but very imperfectly evacuated. This difficulty can be partly overcome by using a large-sized needle, through which, if the suction-force is good, large pieces of cheesy material may be removed; and a simple expedient that I have found of value when such clogging does occur is to force through your aspiratory needle a small amount of a weak carbolic solution, thus washing back into the cavity the obstructing plug, then, changing the position of the needle, to begin aspirating again. Introduce the needle at some little distance from the abscess, so that considerable tissue intervenes between the opening and the external air. It is advisable to make the openings also at dependent points, so that if the abscess should eventually open along the track of the needle the drainage will be of the best. If possible, after the evacuation of the abscess, whether or not any fluids, such as iodoform and glycerine, or hydrogen peroxide, &c., have been injected, make pressure either by a pad and bandage, or by straps of adhesive plaster. This prevents hemorrhage from the sac-walls, and promotes absorption. Very little has been done with the injection of fluids into the abscess-cavity after evacuation in the cases here analysed, as the results by the other method were so

good. The iodoform-emulsions suggested by Bruns and Krause, seem, however, worthy of trial.

In all cases, no matter at what stage of the disease, efficient protection should be given the spine, either by plaster, paper, wooden or wire jackets, or corsets, or by some of the numerous forms of braces. This protection, combined with proper general care of the patient, will, in many cases, cause a disappearance of the abscess, and all that remains is a small nodule, without fluctuation, and causing no symptoms. If the abscess is increasing rapidly in size, or is producing pressure-symptoms, aspirate, and this should be continued at intervals if the patient is doing well. If the patient is doing poorly, and symptoms indicate that this is due to the abscess, endeavour to remove the cause; open, clean out thoroughly, scrape the abscess-cavity, and, if possible, the sinus leading to the diseased bone, and also the diseased bone itself. Secure good drainage, and keep your wound aseptic, if possible. Of the many cases of abscess in the pelvis but few can be properly drained by one opening, and I believe it best to open through and through so that, standing or lying down, the drainage is always good.

Whether the cheesy mass left behind after non-operative treatment or after aspiration may cause future trouble, is a matter that is not clearly established, although we might reasonably suppose that in some cases it does.

There are also a certain number of cases in which aspiration or incision might be indicated to prevent the abscess bursting into some viscus, but none have occurred among those analysed in this paper. The most frequent indications for opening the abscess in non-infected cases that are doing well are that they interfere with the proper application of a brace or, by their size, are impediments to locomotion. The psoas abscesses, if accompanied by much contraction of psoas and iliacus muscles, cause marked lameness, which disappears when the abscess is removed. Another reason for aspiration or incision is that, by burrowing, the abscess may enter another joint and cause further trouble.

Analysis of 75 cases of abscesses of Pott's disease.—No treatment but brace, abscess disappeared, 3; no treatment but brace, abscess *in statu quo*, 8; no treatment but brace, abscess increasing, child doing well, 8; no treatment but brace, child not doing well, 2; (21). *Aspirations*.—Abscess disappeared, 11; abscess opened spontaneously after aspiration failed, 3; abscess incised after aspiration failed, 4; abscess *in statu quo* after aspiration failed, 1; (19). No. of aspirations in each case from 2 to 6, average 3. *Incisions; scraping sac*.—With use of iodoform-emulsion or peroxide of hydrogen (14); results—good 11, bad 3; infected at time of operation or at subsequent



dressings, 11; not infected, 3. *Opened spontaneously*.—Results—good 15, bad 6 (21); total, 75. *Deaths*.—Tuberculous meningitis, 2; amyloid liver, 2; suppression of urine, 1; total, 5.

A study of the preceding analysis will show us that the cases that have been treated on the expectant plan and by aspiration have done remarkably well, and we believe this plan should be followed whenever possible. The two deaths from meningitis occurred in cases that had been aspirated, the two from amyloid liver in cases that had opened spontaneously, and the death from suppression of urine occurred in a child thirty-six hours after opening a psoas abscess in front and behind and inserting a drainage tube. These results are immediate rather than final, and it must be clearly understood that they do not represent the true death-rate of Pott's disease complicated by abscesses. The death-rate after incision is also larger in adults than in children.—*Medical News*, December 19, 1891, p. 706.

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#### 46.—ON THE EVACUATION OF SPINAL ABSCESSSES WITHOUT DRAINAGE.

By G. A. WRIGHT, M.B., F.R.C.S., Senior Assistant Surgeon to the Manchester Royal Infirmary.

It would be hard to find a surgical problem more difficult to solve than that of the best method of treating abscess arising from tubercular disease of the spine. There are surgeons who never open a spinal abscess, and trust to one or another mode of treating the carious spine, in the hope of the abscess becoming quiescent or drying up. Others open abscesses only when on the point of bursting; others use aspiration, repeated twice, or more often, if the cavity refills; others open without draining by the old valvular incision; others open and drain, without doing more. Others again open and drain after washing out the cavity more or less thoroughly. Some open an abscess where it approaches the surface; others seek it at the nearest accessible point to the bone lesion. Treves, taking a rational view of the condition, sought to remove the cause of the abscess by reaching the carious focus and removing the dead or hopelessly diseased bone. Barker and others have dealt with the abscess cavity by careful cleansing and removal from it of all caseous and tuberculous material, as far as possible, with an attempt at obliteration of the abscess-cavity by immediate union of its walls. Other methods have also been adopted—hyperdistension of the sac, injections of various kinds, and so on.

The very multiplicity of methods shows the inefficiency of any one to meet all cases. The ideal treatment would, of course, be a combination of Treves's and Barker's methods—the removal of the focus of disease to which the abscess is due, together with the removal of the contents and wall of the abscess-cavity. Unfortunately it is only in a very small minority of cases that this is practicable. As a rule, it is quite impossible to reach and clear away the carious focus in the spine. On the other hand, as, with efficient treatment, the bone-disease frequently becomes healed and the caseous material is detached and thrown off into the abscess-cavity, we may hope by thorough removal of the contents of that cavity to obtain a good result in a certain proportion of our cases, and this without leaving behind a possible source of future infection, such as after any of the other methods of treatment.

Barker's method must therefore be considered as the most scientific and practicable method of dealing with these difficult cases. Failure is due either to the fact that the disease in the spine is progressive, or to imperfection in the operation. The whole of the morbid material may have been removed from the abscess-cavity, and yet more may descend the (usually) narrow track leading from the diseased bone into the wider abscess-sac below. In such cases, even if the abscess has been obliterated after the first operation, it will sooner or later refill. The right treatment in such cases, I believe to be, to repeat the operation, just as in the first instance, and I would not hesitate to repeat it a third time, or oftener, if necessary. Therefore, if after the first operation a sinus forms and persists, it should be carefully scraped out again as soon as it is clear that sound healing will not occur; if left, tuberculous infiltration of the walls of the sinus is likely to take place. I have not entered into a detailed description of the operation; it is sufficient to say that a large opening should be made and the walls of the sac carefully scraped away with Volkmann's spoon or some other instrument, and well rubbed out with artificial sponges or similar material. The cavity should then be well washed out with an antiseptic lotion, and iodoform in suspension or solution, injected. The excess of fluid should be squeezed out, the wound closed and dressed with firm pressure to keep the walls in contact, and, so far as possible, the cavity obliterated. If all goes well, no change of dressing is required for a week or two, and then if the case is successful, the wound is found healed.

Mr. Mayo Robson appears to have had considerable success in the treatment of these cases by repeated aspiration and injection solely of iodoform solution, but this cannot be looked upon as so perfect a method as Mr. Barker's, as infectious material is far more likely to be left behind. While I believe



that the principle of Barker's operation is the best, an examination of the notes of my cases shows that in most instances it has failed. The failure has been due not apparently to any septic condition, but simply to the fact that, as already pointed out, the whole of the disease has not been removed. My conclusions as to the treatment of spinal abscesses are :

1. The first essential is *rest*, in its surgical sense, to the spine.
2. When efficient rest has been provided, an abscess, unless it is increasing, should be left to itself for a period of not less than a month.
3. If the abscess increases and is evidently going to open spontaneously, or, if there is acute suppuration going on, the abscess should be dealt with by Barker's method, provided thorough asepsis can be assured.
4. An abscess that remains stationary for more than two months, or thereabouts, should be dealt with by Barker's method, provided that throughout the period *rest* to the spine has been secured.
5. Receding abscesses should be left alone.
6. Residual abscesses, if stationary or advancing, should be dealt with by Barker's method, and will nearly certainly be cured.
7. Refilling of an abscess or persistence of a sinus after evacuation should be dealt with by a repetition of the operation as soon as it is evident that repair will not take place, *i.e.*, usually in a month.
8. If there be a doubt about the real maintenance of asepsis, either from want of training on the part of the surgeon or his assistants, nurses, friends, etc., the abscess should either be left alone or dealt with by aspiration and injection of iodoform.

(I may refer to Mr. Barker's paper, *British Medical Journal*, February 7, 1891 ; to that of Mr. Mayo Robson, *British Medical Journal*, April 25, 1891 ; and, in the same number, to some cases of my own bearing on this question.)—*Medical News*, November 21, 1891, p. 597.

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#### 47.—IODODERMA, OR DERMATITIS TUBEROSA, DUE TO IODIDE OF POTASSIUM.

By NORMAN WALKER, M.D., M.R.C.P. Edin.

The following case, which occurred in Dr. Unna's clinic last summer, and which Dr. Unna kindly handed over to me for investigation, is one of considerable interest, for although several cases have been clinically described, the pathological

histology of the new growth has, with a very few exceptions, remained uninvestigated.

J. E., male, aged forty-one, married, was admitted on July 21st on account of a rapidly growing tumour situated on the lower part of the nose. He has always enjoyed good health. He has had gonorrhœa at least twice, and several months ago he acquired a sore on the penis, which, he says, healed up under the application of cupric sulphate, and gave him no more trouble. His glands are everywhere hard, but not much enlarged. He never had any cutaneous eruption or loss of hair. His urine contained no albumen. The history of the present affection is as follows:—On July 8th, on account of a feeling of dryness and discomfort in his throat, he consulted a laryngologist, who prescribed for him a mixture containing iodide of potassium, of which he was to take doses amounting altogether to seventy-five grains a day. The throat affection improved, but on July 13th a small nodule appeared on the bridge of the nose. It was red and inflamed looking. On the 14th it had grown larger, and he squeezed from it what he describes as matter and blood. Later in the day a ring of vesicles appeared round the original nodule, and, as next day the growth still increased, he revisited his doctor, who ordered him to apply to it Hebra's Diachylon ointment. On the 16th, as it was still larger, a dressing of lint was applied and the doses of iodide increased, so as to amount to 100 grains a day; but the tumour continued to increase in size up to the time of his entering the clinic.

The tumour was situated on and occupied the lower half of the nose. It was of a dark-yellowish or orange-red mahogany tinge, with here and there lighter yellowish spots. It was in appearance granular, and here and there were what looked like the openings of sebaceous glands. It was elevated about a third of an inch above the normal level of the part, and looked just as if a piece of coloured and varnished putty had been stuck on the end of his nose. It caused him no pain. Its appearance at once suggested that of an epithelioma. On touching it, however, this impression was dispelled, as the tumour was of an extraordinarily soft and sponge-like consistence. Manipulation was also painless. The diagnosis, excluding epithelioma, was thus limited to three possibilities: mycosis fungoides, syphilis, and a dermatitis due to medication. Against the first two were the rapid growth and the unity of the tumour, with the addition, in the case of mycosis fungoides, of the fact that there had been no preceding skin affection, and the production of the prescription for the medicine, which had been taken so freely for almost a fortnight, put the diagnosis, which had been already made by Dr. Unna, beyond doubt. The medicine was at once stopped, and for a few days the tumour was left to itself. With the



exception that it became somewhat darker, things remained very much *in statu quo*, and consequently on July 25th the patient was put under chloroform, and the natural shape of the nose restored by removing the superfluous growth with a razor.

The form of eruption which is popularly, and probably most frequently, associated with the administration of iodine is the vesicular and bullous form, while the condylomatous, tubercular, or anthracoid form, though it has been not infrequently remarked by acute observers, has apparently attracted so little general attention that more than one of the most recent text-books of dermatology leave it absolutely unnoticed ; although its resemblance to syphilitic processes, and the fact that iodine is usually exhibited in its larger doses on account of that disease, make its importance difficult to overestimate.

The first reference, though not a very direct one, to this (tubercular) form which I can discover is an allusion by Ricord as far back as 1842, who notes that a papular or nodular erythema may be caused by the administration of iodine. Fischer describes a nodular among other forms of iodine eruption. He described it as consisting of papules slightly raised, regularly rounded, and of an intensely red hue. He considered it to be a sort of telangiectatic condition such as is seen in congenital nævus, and in a more marked degree in framboesia. The attention of the profession was recalled to this condition by Tilbury Fox, who described it as consisting of a pultaceous fungating mass which he characterised as "odd." He says : "The bullous form breaking down can produce mushroom-like masses varying in size from a pea to a shilling." Colcott Fox applied to the eruption the term "condylomatous." M. Hardy briefly alludes to an erythematous form of eruption which may possibly have been an early stage of this form. McCall Anderson gives a note of a fatal case of purpura, and an interesting allusion from Voisin, who, in six out of ninety-six epileptics treated with bromide, observed : "An eruption in the form of oblong or roundish swellings on the lower limbs, of a rose or cherry colour, which became yellow, and then developed little points like acne pustules." This eruption differed from most described cases caused by iodine in that the bases were very hard and painful.

One of the best clinical descriptions of the eruption is that by Nevins Hyde, of Chicago, who at different times has described three cases :—*Case 1*: An infant where there were isolated whitish and reddish-yellow nodules varying in size from a split pea to half a marble, and resembling molluscum tumours. On the left cheek was a patch as large as the section

of a turkey's egg, surrounded by a narrow areolar blush, and raised about 6 mm. above the surface.—*Case 2*: Child, aged two years, with face and hands thickly studded with firm reddish-yellow, slightly umbilicated semi-solid lesion, varying in size from a small marble to a pigeon's egg.—*Case 3*: A most interesting case, where the diagnosis of leprosy had been previously made. For more than a month the patient, a girl aged seventeen, who had not yet menstruated, was dosed with iodide of potassium. The eruption appeared on the third day of the administration of the drug in the form of a number of semi-solid papules on the forehead. These rapidly increased in size and in number, and when Dr. Hyde saw her, the patient's scalp was covered with tubercles as large as pigeon's eggs, pressing on each other, and covered with a sticky puriform mucus. The head, chest, neck, and back were covered with superficial small egg-sized, semi-solid discrete or confluent oval or irregular tubercles, raised several millimetres above the surface. Many closely resembled condylomata. A few had the appearance as though they contained boiled sago grains. Incision gave exit to blood, grumous pus, and tissue debris. The lesions could in no sense be said to be chambered. He remarks, "They were evidently masses of softish vascular epithelium." He concludes that the iodine eruption may be manifested in three forms—(1) bullous, (2) polymorphous, and (3) occurring only in infants and young persons neither cachectic, syphilitic, or moribund, but often otherwise healthy—semi-solid, slightly umbilicated lesions resembling condylomata and molluscum.

Hallopeau's case differed very markedly in many points from Hyde's. The patient was an elderly man markedly syphilitic, who had on that account had large and prolonged dosing with iodide. The eruption consisted of two elements, cicatrices and vegetations. The vegetations which are the elements with which we are concerned were very variable in size up to several millimetres in diameter. Some were small and pediculated, others resembled venereal condylomata. The colour was always a rosy red. The nose was very much altered and deformed, rosy in colour, and glazed as if it had been varnished. The lower border of the septum and the free border of the nostrils were enlarged and excavated, looking not unlike lupus. The tumefaction was so great as to prevent the entrance of air into the nose. Many other parts of the body were similarly affected by the double process of vegetation and cicatrization, and he describes his case as an "atrophic and vegetative form of iodine eruption."

Besnier's patient was a male, aged forty, who took two grammes of iodine daily. At the end of a week he returned



with the face and thorax covered with small rapidly growing true tumours, varying in size from a pea to a bean. They were coppery-red in colour, soft to the touch, almost like a mushroom, and presented punctiform lacunæ analogous to those of an anthrax furuncle. From this resemblance he named it "anthracoïde." It was impossible to express any contents, and incision only gave exit to blood. The eruption was accompanied by burning pain, but there was no disturbance of the general health; and, indeed, the patient looked on the eruption as a favourable sign that his disease was "coming out." He had no idea that it was connected with the drug. On the cessation of the drug, and the application of glycerine of tannin, the eruption disappeared in a fortnight, leaving behind it small cicatricial depressions. Besnier remarks that this case can only be compared to those caused by bromide, and noted by Voisin.

E. Bradley, in a very exhaustive account of other forms of iodine eruption, makes only a brief allusion to this form, saying that "the eruption can be papular, or consist of subcutaneous nodes analogous to erythema nodosum."

In Pellizari's first case—a syphilitic male, aged forty—there appeared, preceded by chills and fevers, a papular and rupiform eruption. The papules were few in number, almost level with the skin, not extending deeply, and not containing blood. They had a rough surface, and were of a dark strawberry-red colour, which only slightly disappeared on pressure. The bullous form was chiefly on the limbs. The bullæ averaged half an inch in diameter, and were similar to the bullæ of rupia, having a deep base surrounded by an areola. They were of a light-yellow colour. On opening the bulla no characteristic ulcer was seen at the base, which was, however, irregular and covered with small pieces of gangrenous-looking tissue, but hardly any bloody sero-pus was present. A third manifestation was in the form of subcutaneous nodes. There were three of these tumours, varying from a nut to an apple in size. One was soft and covered with healthy skin, another was surmounted by a large blister of a slatey-grey colour. Every fresh exhibition of the drug called out these same manifestations. He quotes, on the authority of his father, Pellizari, two cases where similar subcutaneous nodes were caused by the drug. His second case was that of a young prostitute, aged eighteen, who had been treated by her employer with large doses of iodide on account of a sore on her genitals. She was covered with numerous pasty nodules varying in size from a hazel-nut to a walnut. They were painless, deep-seated, and covered with healthy skin. Only a few of the smaller ones were covered with a reddened cutis. These cases bear no very close relationship to the form we are at present discussing. I have

related them because the papules and bullæ which occurred in Case 1 have most probably a relationship to the tuberous form. It will be noted that in their progress they correspond to the case described by Fox. The subcutaneous nodules, as will be seen on reading the pathological anatomy of our case, are in no way connected with such cases as ours.

Duhring describes a case which he calls "local circumscribed phlegmonous dermatitis," due to the ingestion of iodide of potassium. A tumour arose on the forehead which grew to a size of two inches, and was not unlike ringworm in appearance. It was surrounded by vesicles, pustules, and nodes.

Taylor records a case where, after very prolonged and frequent dosing with iodine, the forehead, cheeks, eyelids, and neck became covered with a number of distinct tumours. They were deep red in colour, and varied in size from 0.5 to 15 mm. They were much larger on the surface than on the base, many having a mushroom-like form. They were very soft and yielding to the touch, and a little pus could be squeezed from some of them. The large ones had numerous little trumpet-shaped openings from which pus could be pressed. There was very little constitutional disturbance, and the tumours mostly disappeared in a week under the application of tincture of perchloride of iron. He considered the process one of inflammation of the sebaceous glands.

The date of the appearance of the tumours varies in different and also in the same cases. Pellizari, who verified his diagnosis by inducing the eruption several times, found the time necessary for its production varied from thirty-six hours to ten days. Duhring gives four hours, Hyde three days to three weeks, and in the case under consideration the first appearance of the tumour was five days after the first dose of iodide. It is an interesting fact that practically none of the patients showed any of the more common manifestations of iodism. Although iodine has been frequently demonstrated in the urine, as indeed it can be in that of anyone taking the drug, none of the previous observers have succeeded in demonstrating its presence in the lesion. In examining a portion of the tumour immediately after removal I was equally unsuccessful, but on testing the alcohol in which the greater part of the tumour (cut in small pieces) had been hardened for three weeks the hydrochloric acid and chloroform test showed a distinct violet tinge. Control tests were of course made, and gave absolutely negative results.

The process would seem to be this: Owing in some way to stimulation by the iodine the epithelial cells lining the sebaceous glands do not undergo their normal fatty degeneration and transformation into sebaceous cells; but, reverting under the



stimulus to their primitive type, they proliferate once more as true epithelial cells. The sebaceous cells already existing merely fulfil their normal destiny, and as they break down and are thrown off into the follicle, their place being no longer filled by the development of new sebaceous cells, the number gets less and less, until we have the appearance of two or three sebaceous cells surrounded by a large mass of proliferating epithelium. The cells at the margin can be observed in a condition of active mitosis. The new formation is, however, not entirely confined to this seat. As to the relation of the sweat ducts, I was unable to make any direct observation. The epithelium was never distinctly observed descending from the upper layer, but that lining the hair-follicles, apparently also affected by the stimulus, proliferates rapidly, and sends out from the sides of the follicle buds of epithelium. To these buds is due the irregular growth in the upper part of the tumour, while the large masses lower down are occupying the position of the sebaceous glands. A degenerative process is, however, also present. In the hair-follicles, occasionally in the sebaceous remains, and often also in the centre of epithelial masses, leucocytes have found their way and led to the formation of small abscesses, the existence of which has been frequently noted clinically.—*The Lancet*, March 12, 1892, p. 571.

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#### 48.—ON TRACTION AND FIXATION IN POTT'S DISEASE.

By REGINALD H. SAYRE, M.D., New York.

One of the fundamental principles in the treatment of all joint-diseases is, so far as possible, to secure the absence of traumatism. In the spine, traumatism may be caused, first, by movements of the diseased parts; second, by the weight of those parts of the body, when erect, that are above the point of disease; third, by jars, when walking; and last, by the reflex muscular spasm common to joint-disease wherever situated. This muscular spasm is an effort on the part of Nature to secure rest for the diseased joint, and when an apparatus, or the surgeon's hand, or any other means secure this rest, this reflex muscular spasm disappears. The care shown in the gait of patients with Pott's disease, and the frequency with which they support the weight of the upper part of the body by resting their hands on the seat of the chair, etc., point most clearly to the necessity of relieving the diseased spine from the super-incumbent weight, and protecting it as far as possible from concussion.

Pott recognised the necessity for preventing concussion, and removing the weight of the upper part of the body, but the rest in bed that he advocated, though certainly very beneficial, gives but very imperfect rest to the diseased spine, as it does not prevent motion, or abolish reflex muscular spasm.

The addition of a posterior splint of metal or other material, fastened into position by straps around the shoulders, and an apron across the chest and belly, more or less completely prevents movement of the diseased joint, but is defective in not supplying traction to overcome the ever-present reflex muscular spasm. Another objection to this class of splints is that the trunk must be so tightly girdled, in order to give rest to the spine, that respiration is greatly impeded, and, in consequence, the nutrition of the patient suffers.

Pain is to my mind a symptom of irritation, and the relief of pain is a good index of the removal of the source of irritation. The means that gives the greatest freedom from pain most thoroughly removes the source of irritation and puts the patient in the best condition to recover.

In all joint-diseases, traction, in my experience, is a great reliever of pain, and I consider it a mistake to disregard it in the treatment of Pott's disease. I frequently see children insist on keeping the straps of their jury-mast so tight that it is very difficult to prevent galling of the chin and occiput from constant pressure, and yet these children beg to have their straps fastened again when they have been loosened to bathe the head, the pain caused by these chafes being so much less than that caused by the irritation of the spine when the traction is diminished. I have seen these same children, later on, when the inflammation of the spine was less acute, ask to have the straps of the jury-mast loosened, and, still later on, ask to have them removed altogether, the necessity for employing traction having passed by.

A patient of mine, an adult of great intelligence, with lumbar Pott's disease, who was confined to his bed for eighteen months prior to the application of a plaster-of-Paris jacket, has often spoken to me of the relief afforded by stretching his spine. I have seen him drive over rough pavements in his jacket, without the least pain, at a time when he was obliged to use the utmost caution in movement in bed with his jacket off. Some of the jackets I have made for him have failed to give relief, as they did not lift up the thorax sufficiently to protect the diseased lumbar spine, though they were adequate to prevent motion. He says that he is not comfortable unless the trunk rests in the jacket, and the weight is thus transmitted to the pelvis, without pressing on the diseased part of his spine. I cannot help thinking that the more effectually we remove the



weight from the spine in all cases, the more efficiently we have protected the patient.

It is because they act by lifting off the superincumbent weight more effectually than other means that I prefer jackets passing completely around the body, to posterior supports, which act merely by preventing motion, and do not diminish concussion or lift off superincumbent weight, unless they are provided with jury-masts. Those that are provided with the latter are almost invariably defective in having no base of support on which the splint may rest, and are prevented from slipping down, when traction is made on the head, simply by the friction of the splint on the body. This friction is distributed both above and below the point of disease, and thus adds to the pressure made on the diseased point, which becomes greater in proportion to the extent to which the straps of the jury-mast are tightened. In a badly-fitting plaster-of-Paris jacket the same trouble appears, and I have seen numbers of plaster jackets the jury-masts of which were fitted with pads under the joint where the crossbar was riveted, with the purpose, I suppose, of preventing injury to the head when the jury-mast rested on the child's crown. It is obvious that a child carrying a jacket of this kind receives no benefit from traction, but simply carries around on its inflamed spine the weight of the jacket and jury-mast, in addition to the weight of that part of its body that lies above the point of disease.

In upper dorsal disease, the point of inflammation is too high for the jacket to exercise sufficient control over movement, and for this reason I think that jackets are inferior to posterior metal supports fitted to pelvic belts that have bands passing above the crests of the ilia to form a base of support, so that traction by a jury-mast may be effective. In addition to this, there should be curved metal bars passing from a plate that rests against the scapulæ under the axillæ to the front of the shoulder, where padded metal plates should make pressure, in order to prevent the shoulders from dropping forward, and thus causing the chest to sink in.

Straps passing around the shoulders are not effective, and the point of pressure in front must be the head of humerus.

In cervical disease, also, if there be no time to have a suitable metal one made, the jacket is useful merely as a base of support for the jury-mast.

In lower dorsal and lumbar disease, however, for the reasons that I have mentioned, I think that jackets enveloping the body are more effective in giving rest to the inflamed area than posterior supports, as the latter exercise no upward traction, but simply bend the body backward, making a fulcrum of the posterior part of the spine opposite the point of disease, which

they endeavour to separate, in the same way as a hinge is opened.

The more accurately a jacket fits, the better, and hence I prefer those made on the patient to those made over moulds made from the patient's jacket, as the second one is not so sharp in outline as the first, and, in small, skinny children it is often very difficult to get accuracy of fit, especially when there is great deformity. Very little changes make the difference in having a jacket that will not slip over the hips, and one that will so slide when the jury-mast is tight. For making the original jacket on the patient, I have found nothing so satisfactory as plaster-of-Paris.

In closing, I would say that if, because of sores or because the ilium is too small to afford a base of support, the case is not suitable to be treated in a jacket, I believe traction in bed by head-straps and weight and pulley, or by elastic, or, better still, by means of the portable wire cuirass, should be used, and, in all cases of paraplegia in Pott's disease, I would make faithful trial of traction and counter-irritation before proceeding to re-section of the laminae.

In making traction, I should be guided by the feelings of the patient. To use my father's words when he introduced plaster-of-Paris jackets seventeen years ago : "Raise the patient until he is comfortable : there stop, and keep him so."—*Medical News*, November 14, 1891, p. 568.

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## ALIMENTARY CANAL.

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### 49.—ON THE USE OF THE ÉCRASEUR IN REMOVAL OF THE TONGUE.

By JONATHAN HUTCHINSON, F.R.S.

The *écraseur* has, I believe, fallen into unmerited disuse, because it has been chiefly associated with the galvano-cautery wire. During two years or more I was myself in the habit of employing that method. It was a most troublesome procedure, entailing the attendance of Mr. Krohne with his battery and duplicate set of instruments, and often risking some burning of the patient's lips. These were inconveniences, but it had one fatal and final objection. Although often absolutely free from hemorrhage at the time of operation, it was very apt to be followed by it four or five days afterwards. From this occurrence of secondary hemorrhage, although I had no actual death,



I had several very alarming occurrences. These cases—for they were not infrequent—soon induced me to lay aside the galvanocautery. Since the year 1877 I do not think I have ever employed it for any purpose whatever. It is a very ingenious instrument, but far inferior for all practical purposes to the cold wire. The instrument which I have employed exclusively for the tongue during the last fourteen years is the ordinary screw *écraseur*, armed with a loop of well-tempered wire. I never employ a chain or any complicated form of apparatus. It is sometimes said that the wire is apt to break, but this has not been my experience. It is well always to be provided with a spare loop in case of accident, but I cannot remember that I have ever myself broken the wire, the explanation being probably that I always proceed very slowly, and allow time for the tissues to give way. At one time I had a favourite loop, with which I had operated in at least fifteen cases; and it was finally broken, not by myself, but by an assistant to whom I had temporarily entrusted the instrument, and who was going too fast.

The details of the method of procedure are the following:—The mouth being kept open by a Smith's gag, the tongue is seized near its tip with a vulsellum and dragged forcibly forwards. It is then transfixed well behind the disease by two strong steel hooks with handles. The vulsellum being then relinquished, the wire loop is passed over the handles of the instruments, and then over their points, and the nozzle of the instrument being pushed well into the mouth, and care being taken that the wire bites at the proper place, the screw is used rapidly until the wire is well buried in a deep groove. After this the steps are very deliberate. Although I always have a watch placed before me as a security against going too fast, any exact timing of the turnings of the screw is but seldom observed. A little practice makes it easy to guess how to make the whole procedure last about half an hour. When I used to take a full hour there was seldom at the conclusion any bleeding whatever, and I did not usually tie the lingual arteries: now, however, I always expect the latter to bleed feebly when the surface of the wound is rubbed, and make a point of inducing them to do so, and of tying them. Scarcely ever do any other vessels than these require ligature, and the operation during the use of the instrument is quite bloodless.

The after-treatment of the case is usually very simple. The patient is allowed to take milk, or coffee or tea with half milk, from the first, and he is fed by means of a teapot, on the spout of which a long, flexible nozzle is fixed, which is passed well back into his throat. On the day after the operation the patient is encouraged to leave his bed unless he be old and feeble. There

is an advantage in the sitting posture, that it permits more easily of washing out the mouth. This is to be done very freely, and very frequently. The material used is always the same, a tablespoonful of spirits of wine in a tumbler full of water, either hot or cold according to the patient's preference. This is the most convenient and pleasantest antiseptic wash for the mouth that I know of. At the end of a week, or ten days at most, the patient is encouraged to go into the open air. Should the granulations appear feeble, and the healing be slow, the process may be expedited by sending him to the seaside.

In exceptional cases the method of operating and the after-treatment above described may require some modification. When the disease is seated very far back, it may be necessary to divide the cheek in order to gain access to it. In the only case in which, so far as my memory serves me, I have lost a patient after excision of the tongue, this procedure had been necessary. Erysipelas attacked the cheek, which had been incised, and it probably extended to the wound in the mouth, and death occurred within a week. In other cases I have repeatedly divided the cheek without any evil results. I have never thought it necessary to divide the symphysis of the lower jaw, excepting in one case. In that instance the tumour, a sarcoma, was so large that it blocked the whole mouth, and rendered it impossible to manipulate with instruments.—*Liverpool Medico-Chirurgical Journal, January, 1892, p. 219.*

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## 50.—ON RECURRENCE, AFTER REMOVAL, OF CANCER OF THE TONGUE.

By JONATHAN HUTCHINSON, F.R.S.

It may be noted as a somewhat unexpected result in reference to the removal of cancer of the tongue, that experience has proved that it is by no means necessary to excise the whole of the organ in cases where the disease is limited to one part. This is contrary to what might have been inferred, for since the substance of the tongue is vascular, succulent, and well supplied with lymphatics, it was only reasonable to fear that infiltration of its substance with infective elements to a considerable distance from the apparent limits of the disease would be very likely to happen. Experience has shown, however, that wide infiltration of the adjacent tissues is not common, whilst, on the other hand, it has revealed the fact that infection of more or less distant lymphatic glands may be produced by ulcers of the most insignificant size and of the briefest duration. We now know beyond the possibility of



doubt that the real risk is of gland infection, and that it begins almost from the very day that the sore assumes suspicious features.

Cancer germs may remain latent in the lymphatic glands for periods of several years, and may then, after both patient and surgeon have been willingly believing that the case was a permanent cure, evoke disease. My own experience on the points adverted to has been most definite. Although I am still an advocate for very liberal excisions, I do not now think it necessary to recommend the removal of the entire organ in many cases in which in former years I should, on principle, have insisted on that measure. The cases are indeed but few in which I deem it necessary to remove absolutely the whole organ. They will become, I trust, less and less frequent as years advance and early diagnosis is better understood. With rare exceptions, it may be said that the case must have been most grievously neglected in its earlier stages which ever comes to require removal of the whole tongue.

In justification of the partial operations which I have practised and now recommend, I must state that in the whole of my experience of excision of the tongue I have had but four cases in which the disease returned in the organ itself, or, indeed, in the mouth. With these exceptions, my partial excisions (and they have been very numerous) have, I believe, all remained perfectly and permanently sound so far as the scar of the operation and the stump of the organ were concerned. The picture changes, I am sorry to say, when we come to speak of the lymphatic glands.

My impression is that in at least three-fourths of my cases, sooner or later, the disease has recurred in the glands. In many, the interval has been very considerable, and the gain to the patient from the operation has been very definite. But experience compels the admission that, however early the stage at which the operation for cancer of the tongue is performed, the probability is very great that enlargement of the lymphatic glands will sooner or later follow. It is to be added to this admission that in but few of the cases in which the glands become enlarged will the surgeon be able to operate upon them with much chance of permanent success. I make it an invariable rule to excise lymphatic glands if they are movable and accessible, and to do it in the freest possible manner; but I am sorry to say I can quote but very few cases in which it has been followed by protracted immunity.

It is an interesting fact in reference to disease of lymphatics beginning from tumours of the tongue that the gland affection

may occur in any one of several different regions. The commonest part is in the floor of the mouth, and here, if the enlargement be recognised early, and the patient, having been forewarned of the occurrence, be willing at once to submit to an operation, there is a fair amount of hopefulness.

In the majority of cases of enlargement of glands in the floor of the mouth the patient does not seek surgical advice until many glands are implicated, and until, it may be, they are adherent one to the other, and it is too late to attempt an operation. Even in some of these cases, however apparently hopeless, it may be justifiable, after fully explaining the facts to the patient, to attempt an operation. If done, it must obviously be carried out in the freest possible manner.

Another position in which isolated glands every now and then take on enlargement after cancer of the tongue is under the anterior edge of the sterno-mastoid in its upper third. I have several times removed glands from this position. The gland is often a single one, and it may enlarge rather quietly. Provided that it has not acquired adhesions to the sheath of the vessels, and that it be single, a gland in this position is fairly accessible, and its removal is a satisfactory procedure.

The worst position of all in which the recurrence of gland disease can take place, and, unfortunately, a not infrequent one, is in the back of the neck behind the mastoid process and the upper part of the sterno-mastoid. I have never seen a case in which I have thought it advisable to attempt an operation for the removal of glands in this position. They usually grow very rapidly, produce a large and very painful mass, and bring about the patient's death after a very short interval.

It may be noted as a point of interest that it is very seldom indeed that the lymphatic glands enlarge in these three several positions in the same patient. If a gland tumour appears in one of these regions, it is almost certain that the others will be free. This fact favours the belief that the lymphatic infection is caused by the migration of infective elements in very small numbers, which acquire their location in one or the other part almost as a matter of accident. This inference is obviously, from the theoretical side, a great source of encouragement to the operator. Constitutional tendency to the disease clearly counts for but little. We have to deal with a local malady, and must follow it up perseveringly and courageously by local measures. — *Liverpool Medico-Chirurgical Journal*, January, 1892, p. 214.



## 51.—ON RETRO-PHARYNGEAL ABSCESS AND ITS TREATMENT.

By BILTON POLLARD, F.R.C.S., Assistant Surgeon to University College Hospital.

Retro-pharyngeal abscesses were formerly considered to depend invariably on spinal caries. There is no doubt, however, that this was a mistaken view. The majority of cases occur in quite young children, and in them the pus collects in the cellular tissue between the pharynx and the fascia covering the prevertebral muscles; whilst the tubercular abscesses, which depend on spinal caries, are situated beneath the fascia and ligaments, in close contact with the vertebræ. The relative frequency of the two classes of retro-pharyngeal abscess has been pointed out by Bokai, who collected the records of 204 cases which had been observed at the Children's Hospital in Pesth during a period of twenty-six years. Only seven cases in this large total were dependent on spinal caries, whilst as many as 189 were of a purely local nature. At the North-Eastern Hospital for Children, where the number of out-patients (new cases) in the year has ranged between 13,000 and 15,000, I have only met, during the last five years, with three cases, two of which were under my own care, and one under the care of my colleague Mr. Dean. All three cases were acute, and had no connection whatever with spinal caries. Although not a common disease, acute retro-pharyngeal abscess of infancy merits a wider recognition than it appears to have obtained, for it not only gives rise to serious symptoms at all times; but it may, by bursting suddenly, especially during sleep, cause death by suffocation, although the condition is one which, if detected, may be completely relieved by a simple enough operation. The following four cases derive additional interest from the manner in which, notwithstanding the small size and the tender age of the patients, they were treated.

My first case was a male child aged seven months who had been ill for seven days, at first apparently owing to a nasal catarrh, but during the three or four days previous to admission it had had a "hard and dry" cough, and had had difficulty in both breathing and swallowing. The child was rather rickety. Respiration was accompanied by a snoring sound, chiefly during inspiration, during which also there was slight recession of the ribs and supra-clavicular regions. The child took its food readily, but deglutition was difficult. The back of the tongue was thickly coated, and there was a quantity of thick mucus in the throat. The glands on the left side of the neck below the

angle of the jaw were slightly enlarged, whilst in other parts of the body they were not enlarged. The temperature ranged between  $98.2^{\circ}$  and  $100.4^{\circ}$  F. On the day after admission an incision was made into the swelling in the throat and a quantity of pus sponged out. Breathing and swallowing were temporarily relieved, but two days later the child's breathing was very difficult, and the swelling in the throat had returned. It was incised again, and a large quantity of pus let out, with great relief to the child; but in the course of two or three days the swelling began to form again, the temperature rose, and the breathing became more difficult. I saw the child a week after its admission, and found that the abscess did not involve the tonsil at all. It was situated behind the pharynx chiefly on the left side. I determined to open it from the neck, according to the plan recommended by Professor Chiene. A small incision was made along the posterior border of the sterno-mastoid, near its upper end, and carried through all the superficial structures till the muscles in the floor of the posterior triangle were reached. The tissues behind the deep vessels and nerves of the neck were then torn through with blunt instruments sufficiently to admit a finger to such a depth that it could be felt by another finger in the pharynx to be close to the outer border of the abscess. A director was then thrust into the abscess, and as soon as pus was seen escaping, the opening was dilated with a pair of dressing forceps, and a tube was inserted. On the following day the swelling in the throat had almost entirely disappeared. Both breathing and swallowing were easy. The temperature was a little raised for four days in association with a patch of pneumonia. A tube of smaller calibre was inserted on the second day. The tube was gradually shortened and completely removed on the ninth day after the operation. The child was discharged a month after the operation, since which it had no difficulty either in breathing or swallowing.

My second case was a female, aged thirteen months. For three months and a half the child had had a discharge from its left ear. The lymphatic glands on the left side of the neck, both in front of and behind the sterno-mastoid muscle, began to enlarge. A small abscess burst just below the left angle of the lower jaw, and healed up in about a week. Breathing had been noisy, especially during sleep, from which the child frequently awoke gasping for breath. Deglutition had been difficult. Liquids were often regurgitated at once. The child breathed fairly well. On examining the pharynx, a swelling was seen on the left side extending from the posterior part of the tonsil to rather beyond the middle line. It reached upwards beyond the soft palate, and its lower limit could only just be felt. The swelling was very tense, but elastic. There



were no signs of spinal caries. The abscess was opened externally in the manner described in the last case. The cavity of the abscess was scrubbed out with a piece of sponge and drained by a long tube. The child was quite well three weeks after the operation.

The third case, a female child aged two years, had been noticed to be "out of sorts" for about a week. Two days before admission the child began to make a peculiar noise during inspiration, got rather blue in the face, and coughed up a quantity of froth, and had repeated fits of choking. The child was pale, thin, and weak-looking. Its voice was hoarse; respiration was noisy but not difficult when the child was awake, though during sleep it was distinctly laboured, and the child frequently woke up with a start. The glands in the neck about the angle of the jaw were slightly enlarged. There were no signs of spinal caries. The back of the pharynx was found bulged forwards by a swelling. Fluctuation could be detected in the swelling. The abscess was opened by Chiene's method. After the operation the symptoms did not improve—in fact, they got gradually worse. The temperature still ranged between the normal and  $101^{\circ}$ . On the third day after operation the child began to get rather cyanosed, and had frequent fits of dyspnoea. She was put in a steam-tent and hot fomentations were applied to her neck. I saw the child again on the fourth day after the operation, and found that the swelling at the back of the pharynx was larger than ever. A steel director was passed in through the wound, and about two ounces of pus were let out. The tube was not lying in the abscess cavity. It was replaced. During these manipulations the child was nearly asphyxiated; but when they were completed she fell asleep immediately, and continued sleeping quietly for the next twelve hours, excepting when she was roused up to take food. There was no further difficulty with breathing. The temperature now fell, and in a few days was normal. On the third day after the second operation the retro-pharyngeal swelling had almost subsided and the voice had almost lost its hoarseness. There was an abundant discharge from the tube, which was slowly shortened, and not left out entirely until the twenty-third day. The child got perfectly well.

The fourth case was a male child aged seventeen months. Ten days before admission the child had a "general cold." Three days later its breathing was troublesome at night, and some difficulty in swallowing also came on. The child was suffering with intense dyspnoea, marked recession of the chest and the face was livid. The right side of the neck was rather swollen. The posterior wall of the pharynx was very red and tense, and was pushed so far forwards that it almost blocked

the fauces. Mr. France, the house surgeon, decided to perform tracheotomy at once. This he did, and, after stimulation and artificial respiration, the child came round and went to sleep, breathing easily through a Parker's tube. Ten hours afterwards Mr. Dean opened the abscess by Chiene's method. The abscess cavity was explored with the finger, but no signs of cervical caries were found. On the twenty-second day the tracheotomy wound had closed, and the tube was left out of the abscess cavity. The child was discharged well three days later.

Two views have been advanced to explain the origin of these acute retro-pharyngeal abscesses which occur in young children. One is that they depend on an acute phlegmonous inflammation induced in a similar manner to acute abscesses elsewhere ; and the other is that they are dependent on an adenitis which is secondary to inflammation of one of the neighbouring mucous surfaces. In connection with the latter view we have an important observation by Dr. Edmund Simon, who describes the lymphatics of the retro-pharyngeal region as forming networks on each side, which terminate in glands located one on each side of the median line between the pharynx and the aponeurosis of the prevertebral muscles. He further states that the glands disappear altogether after the third year of life. In striking agreement with this observation is the fact that the majority of acute retro-pharyngeal abscesses occur in quite young children. The ages of the four cases recorded above were seven months, thirteen months, twenty-five months, and seventeen months. The great majority of Bokai's cases occurred in children under two years of age, and 196 out of his 204 cases occurred under three years. Henoch says that almost all his cases occurred in children still in their first year or little beyond it. In equal agreement with Simon's observation is the fact that the abscess is usually unilaterally placed. This was so in my three cases. The primary inflammation from which the glands are infected may involve the pharynx, the posterior part of the nasal fossæ, the fauces, or the tympanum. In two of the cases above recorded the first sign of illness was a nasal catarrh, and in one an otitis on the same side of the body as the retro-pharyngeal abscess was situated. The disease may come on either very acutely or somewhat insidiously. If the abscess is situated behind the upper part of the pharynx, deglutition will be chiefly embarrassed ; but if it be situated lower down respiration will be also impeded. The difficulty in breathing is especially noticeable during sleep, when, too, it may be accompanied by snoring. The voice, as in one of my cases, may be hoarse, owing to associated laryngeal catarrh. The lymphatic glands on one or both sides of the neck are generally swollen. These symptoms are sufficiently suggestive to lead to an



examination of the throat, when if there is a retro-pharyngeal abscess a soft and fluctuating swelling, situated usually rather to one side of the middle line, and bulging the posterior wall of the pharynx forwards may be felt.—*The Lancet*, February 13, 1892, p. 350.

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## 52.—ON ADENOID DISEASE OF THE NASO-PHARYNX.

By JAMES B. BALL, M.D., M.R.C.P., Assistant Physician  
to the West London Hospital.

In making our diagnosis we have first the aspect: the open mouth, the elongated face, the vacant expression. Then there is the history of noisy breathing and snoring at night, perhaps of suffocative attacks, often of dribbling of mucus or blood on the pillow. There is the dead or muffled voice, and the indistinct pronunciation of nasal consonants. There may be deafness or otorrhœa, or a history of past ear trouble. Often we have a history of oft-repeated colds in the head, or there may be a persistent nasal discharge. Then again a hacking cough may be present, especially bad at night. We can in many cases diagnose the complaint with almost absolute certainty without physical examination. If we find very large tonsils we may be in doubt whether the symptoms are not dependent on this cause. Moderately enlarged tonsils alone will not cause habitual mouth-breathing.

Physical examination is necessary to establish a certain diagnosis. Two methods of physical examination are available, namely, inspection of the naso-pharynx by means of a small mirror (posterior rhinoscopy), and digital palpation. Inspection with the mirror is a somewhat difficult process even in adults; in children it is not unfrequently impossible. Palpation with the finger is therefore mainly relied on, as it can always be practised. For this purpose the right index finger is passed up behind the soft palate. It is not in the least degree necessary to put a gag between the teeth. Once the finger is back in the pharynx the child strains and gags, and does not bite. With some practice the examination can be rapidly made, and the hypertrophied pharyngeal tonsil is felt as a soft rather friable mass on the postero-superior wall of the pharynx. Meyer described the sensation as like pushing the finger into a "bunch of earthworms"; often, however, a more or less uniform mass is felt projecting downwards and forwards. The finger, when withdrawn, is often found smeared with blood from the vascular vegetations.

The treatment of the complaint practically resolves itself into expectant treatment and treatment by operation ; that is, we may do nothing beyond attending to the general health, and perhaps treating certain symptoms, or we may proceed to remove the vegetations by one or other method. Of 150 cases I removed the vegetations in sixty-four ; of the remaining eighty-six cases many ceased attending for reasons unknown to me ; many of the others were not operated upon owing to the objections of parents and others to anything in the nature of an operation ; and in many the symptoms were not marked or of a serious character, so that I did not think it necessary to advise operation. We must remember that, like hypertrophied tonsils, these vegetations, as a rule, atrophy after childhood has passed, and, moreover, as the size of the naso-pharynx increases, there is relatively more room, and they do not cause the same obstruction. Nevertheless, when the disease is at all severe, even though atrophy should occur, and it does not necessarily occur in all cases, permanent ill effects may remain. The mouth-breathing habit may persist, the voice may be permanently affected, and serious damage may have been inflicted on the hearing apparatus. Expectant treatment is therefore to be deprecated when the disease is at all severe, and especially when there is persistent impairment of hearing or otorrhœa.

In the cases in which I did not operate, I find that I mostly prescribed cod-liver oil and iron. In some cases cough remedies were given, and in a few, where there was persistent mucopurulent nasal discharge, I prescribed an alkaline lotion as a collunarium. In some of the cases a certain amount of improvement is noted. I lost sight of by far the greater number before any change had been noted in the symptoms.

In fifteen cases I excised the tonsils, and did not remove the vegetations. I did this in some cases because an objection was raised to anything further being done ; in others, because, while the tonsils were very large, I did not believe the vegetations were extensive. In four cases I find that after removal of the tonsils the children were better in every respect. In four cases the snoring and other symptoms were somewhat improved, though not cured. In the remainder there was no improvement. I have no doubt that removal of large tonsils does tend to produce a diminution in the size of the vegetations, especially in young children.

I now pass on to the sixty-four cases in which I removed the vegetations, as well as large tonsils, when these were present. In three cases I have no note of the result. In the remaining cases, except four cases to which I shall presently refer, there was an immediate or very speedy cure of the mouth-breathing



and snoring. There was also a cure of the nasal discharge, and the dribbling on the pillow at night when these symptoms were present. The deafness in every case underwent speedy improvement or cure. The exceptions above alluded to were a boy aged seven, a boy aged twelve, a girl aged seventeen, and a young man aged twenty-one. In the boy of seven, who still continued to snore badly, I found on examination that there were still vegetations which I had failed to remove. I operated a second time five weeks after the first operation, and he was then quite cured. The other boy was said to snore nearly as badly as before, without any reason that I could discover, and I ultimately lost sight of him before any improvement was reported. The girl of seventeen and the man of twenty-one seemed only slightly benefited as regards the mouth-breathing and other symptoms. I think this imperfect result was chiefly due to their age.

The hacking cough in a few cases still continued while I had the cases under observation, though in the majority of cases it was relieved or cured. "Not coughed since the operation" is a note I find in several cases where there had been persistent cough previously. The voice and speech are noted, frequently, as much improved after the operation. The notes are too scanty to show the effects in this direction. Sometimes, however, the improvement is rather gradual, especially in older children. Otorrhœa is noted in a few cases as having disappeared spontaneously very soon after the operation, and it is a general experience that this trouble is much more amenable to treatment after the removal of the vegetations. Finally, in some cases, where the patient was seen or reported upon several months after the operation, I find a note to the effect that the general health had much improved.

In all these cases, with one exception, I operated with the aid of an anæsthetic, almost always chloroform, and I removed the vegetations with Woakes's forceps. In the one exception, a girl of eighteen, I removed the vegetations without an anæsthetic at several sittings, with the forceps, and under the guidance of the rhinoscopic mirror. I do not intend here to enter into the details of the operation, still less into a description of the various methods and instruments which have been used for removal of adenoid vegetations. I have employed several of these methods in earlier cases. I am satisfied that an anæsthetic, ether or chloroform, generally the latter, is desirable. Nitrous oxide gas allows too short a time. A suitably constructed forceps, such as Woakes's, is, I think, the best instrument for the removal of the main portion of the growths. The finger-nail should then be used to clear away such portions as may have escaped the forceps.—*The Practitioner*, January, 1892, p. 10.

## 53.—ON MALIGNANT STRICTURE OF THE ŒSOPHAGUS.

By DAVID NEWMAN, M.D., Surgeon to the Department for Diseases of the Throat, at the Royal Infirmary, Glasgow.

Using the term "stricture of the œsophagus" in its proper sense, it may be divided into four varieties, viz., malignant stricture, obstruction by benign tumours, organic stricture, and spasmodic stricture. We will now consider these diseases in detail, and afterwards discuss the questions of prognosis and treatment. Two forms of malignant disease attack the œsophagus—the carcinomata, which are very common and usually occur as primary lesions, and the sarcomata, which are rarely met with in the gullet unless as secondary to sarcomatous formations in other parts. Carcinoma is by far the most important and also the most common new formation met with in the gullet; and it appears that any part of the tube may be attacked, although there are certain points which are more liable to the disease than others. Taking, for example, the seven cases of cancer of the œsophagus which have come under our notice this session, it was observed that in two the tumour occupied that portion of the œsophagus situated behind the larynx; in other two the stricture was found to be on a level with the bifurcation of the trachea, while in three the cancerous growth attacked the gullet at its lower extremity. There is considerable difference of opinion as to the most common situation of the primary disease. Some observers assert that the lower third is the most frequent seat, while Mackenzie and others assign 44 per cent. of cases to the upper third, and say that only 22 per cent. occupy the lower third.

As far as my own experience goes, it appears that the most common spot to find the primary growth, at least as far as can be discovered during life, is immediately behind the cricoid cartilage, and that the next point most liable to attack is at the level of the bifurcation of the trachea. Statistics derived from the inspection of pathological reports do not afford very reliable data; because in such instances the disease is not observed at its onset, but after it has terminated the life of the individual and extended far beyond its primary focus. Even in cases examined during the early stage of the disease it is difficult to ascertain the precise limits of the lesion; all we can learn is the highest point of obstruction, unless in those rare cases in which the œsophagoscope may be employed. From a clinical point of view, the most important fact is that carcinoma of the œsophagus very frequently is situated, and may cause obstruction, at the level of the bifurcation of the trachea—namely, at a part where the gullet is likely to be pressed upon by a mediastinal tumour, or by an aneurism of the arch of the aorta. For practical



purposes we must, however, consider carcinomatous disease in reference to the situation of the tumour. When situated high up and of small size, the tumour possibly may be removed by œsophagectomy, or œsophagostomy may be performed, while if large in size the neoplasm may cause obstruction to respiration and demand tracheotomy. Again when the tumour is situated at the bifurcation of the trachea, great care must be taken in the employment of bougies, on account of the danger of causing injury to the trachea or aorta, and at the same time, before adopting any line of treatment, the possibility of the obstruction being due to an aneurism must be eliminated.

We now come to consider the etiology of carcinoma of the gullet.

Age is a most important factor. Of 510 recorded cases, the ages of which I have ascertained, 80 per cent. were between the ages of forty and seventy years, 12 per cent. were below forty, and 8 per cent. above seventy.

Another circumstance which must have attracted your attention is that out of the seven cases shown to you only one was a woman. One in seven is, however, a little below the general average. Of the 510 cases referred to already, 108 were women and 407 were men, and of all the cases which have come under my own observation only 10 per cent. were women. For practical purposes it may be said that four-fifths of the cases of cancer of the œsophagus occur in males.

Passing now to the consideration of the pathology of the carcinomata of the œsophagus, we have already seen that there are certain points of selection; but while this is so any part of the tube may be attacked. When the disease is, as is usually the case, a squamous-celled epithelioma, the histological structure and mode of growth closely resemble cancer of the lip or of the larynx. A small raised, warty, or nodular tumour appears. The proliferation of cells probably takes place in the first instance, in the deeper layers of the mucous membrane, but very soon the basement membrane is perforated and the actively increasing epithelial elements infiltrate the underlying connective tissue. The tumour may remain isolated, but as a rule it assumes an angular appearance, and soon forms a distinct obstruction to swallowing. The disease may further extend into the muscular coat, and afterwards into the adjacent parts. The central or more prominent parts of the growth may now ulcerate, and, as a consequence, at this stage the impediment to swallowing may be somewhat relieved. If death occurs at this period a deep ulcerated ring will be seen to be overlapped by the elevated edges of the upper and lower portions of the tumour. In most instances the obstruction is not entirely due to the space occupied by the tumour proper, but is increased by

inflammatory induration of the connective tissue. This inflammatory new formation, together with the granulation tissue of the ulcer, contracts as the disease advances; so that while the epithelioma is being destroyed by a destructive process the calibre of the gullet is soon after reduced by the contraction of cicatricial tissue. It is therefore commonly observed that, during a certain period in the course of the disease, marked improvement may occur in swallowing, while later on dysphagia becomes more marked than at any previous time.

The growth is usually softer, and the connective tissue more abundant than is observed in epithelioma of the lip or of the skin. But while the squamous-celled carcinoma is the most common growth in the gullet, other varieties of cancer are met with.

Mr. H. T. Butlin, in his admirable monograph on Sarcoma and Carcinoma, refers to three cases of hard cancer or scirrhus of the gullet.

Soft cancer or acute carcinoma is said to be very rarely seen in any part of the œsophagus.

Colloid cancer may attack the œsophagus, but as a rule degenerative changes are seldom observed in malignant growths in this situation. Death of the patient from starvation usually occurs so early after the onset of the disease that little time is permitted for such retrograde metamorphosis to take place.

In considering the diagnosis of carcinomatous disease of the gullet three points require to be considered together—(1) Is there a carcinoma in the gullet? (2) What is its situation? (3) What is its nature? These questions cannot well be discussed separately, for not only do the symptoms depend upon the precise nature of the tumour, but perhaps even more upon its situation. In respect to situation I will divide the cases into three classes—(1) those in which the tumour occupied the upper part of the œsophagus; (2) cases where the growth developed at the bifurcation of the trachea; and (3) those instances in which the neoplasm was situated at the lower end of the gullet. Each of these classes may show a different history, and may present special points for consideration.

In two cases the stricture was situated high up, and in both the onset of the symptoms and the development of the dysphagia were extremely rapid, so rapid, indeed, in the second case, as to raise a doubt whether the disease was malignant or inflammatory in its nature. This sudden difficulty in swallowing is probably the result of two circumstances. First, the disease involves the narrowest and least distensible part of the œsophagus; and, second, the action of the muscles of deglutition are directly interfered with by the tumour, consequently the food does not pass far enough into the gullet to allow the action of its circular fibres to come into play, hence the greater



tendency of food to regurgitate into the mouth or larynx when the tumour is situated high up. In these cases there is still another danger, namely obstruction to the entrance of air, either by pressure of the growth, leading to diminution in the lumen of the air-passages by interfering with the circulation and producing œdema, or by the invasion of the larynx by the new formation.

In the second class of cases—viz., those where the growth has developed at the level of the bifurcation of the trachea, the supervention of dysphagia is generally, other conditions being equal, more gradual, but the special points in diagnosis are more difficult and various.

During the past session we have had two cases of cancer at the level of the bifurcation of the trachea, and in both the development of difficulty in swallowing has been very gradual.

In most cases difficulty in diagnosis is only experienced during the early stage of the case, when, with evidence of well-marked obstruction in the œsophagus, there are no physical signs directly pointing to aneurism, and the only symptom which leads one to suspect serious disease of the aorta is paralysis of the left vocal cord.

The symptoms during life, but also the mode of death, are determined by the situation as well as by the precise nature of the malignant disease. It is clear, I think, that even a slow-growing epithelioma, if situated in the uppermost part of the œsophagus, will lead to death by starvation sooner than a more rapidly growing tumour situated at the level of the bifurcation of the trachea, or at the lower end of the œsophagus. Putting the question of situation of the tumour out of account for the moment, and, other conditions being equal, I think it may be safely said that adenoid cancer grows most rapidly, and, if not interfered with, causes death in the shortest time. Epithelioma is less acute, while scirrhus cancer may remain practically stationary for a considerable period. The most prominent and constant symptom is dysphagia, which, as a rule, is at first slight in degree, but gradually and steadily progressive, at first occasional, but afterwards always present. In some cases, on the other hand, the difficulty in swallowing develops suddenly, and is from the beginning severe. This is experienced when the tumour is situated high up, but if the lower part of the gullet be attacked in not a few instances the patient only complains of severe difficulty in deglutition after the disease has been shown to exist for some considerable time. The usual experience is that solids, especially bread, potatoes, and butcher's meat, when taken in quantity, fail to pass a certain point in the gullet where the bolus may become lodged, or it may be found necessary to wash down each morsel by a draught of fluid, and

even this may only succeed after careful mastication and repeated unsuccessful attempts. The patient may imagine that he has managed to swallow a moderately good meal, when, to his disgust, in a short time the greater part of it wells back into his mouth. This temporary retention of the food is possible only when the œsophagus has become pouched above the stricture. At first the quantity of food so retained is small in amount, and regurgitates almost immediately after it is swallowed; but as time advances the sac may become of considerable size, and capable of retaining large quantities of food. The regurgitation observed in such cases is very different from what is noticed in cases of spasmodic stricture or in ordinary vomiting of the stomach, in so far that the contents of the pouch simply well up, and resembles the vomiting resulting from cerebral disease more closely than any other form of sickness. When ulceration occurs sometimes the dysphagia is relieved to some extent, but at the same time the vomited matter is no longer simply the food as it was swallowed, but is usually mixed with disagreeable fetid muco-purulent blood-stained materials. About this stage of the disease the patient expectorates quantities of frothy mucus, and the secretions become more and more offensive. Alongside the developments of dysphagia, it will be observed that the patient is rapidly emaciating, and the blood becoming more and more deficient in colouring matter and in blood corpuscles. The emaciation is generally but not always marked.

In most of the cases the patients have not complained much of hunger, except perhaps during the early stage of the disease. In the more advanced cases it is frequently very difficult to get food taken, even although the patient is able to partake of fluids or semi-fluid diet. Partly on account of the dryness of the throat and fetid odour of the breath, but also I believe from a desire that their suffering may soon terminate, the patients may absolutely refuse to take nourishment in any form. Some time ago I had a case where I was feeding the patient very satisfactorily by a stomach-tube, when one morning she intimated that she had had her last meal, and would allow no more food to be given to her in any form; but this was not to be wondered at, for after each meal she was tortured with severe pain in the epigastrium, due to the collection of large quantities of gas in the stomach, which she was unable to rid herself of. In very few of the cases which I have seen does the patient complain much of pain during deglutition, unless in those instances where the tumour is situated high up. In these the pain during swallowing is often sharp and burning, and is referred to the ears and side of the neck rather than to the throat. Between meals the pain is less severe, but still present.



at all times unless when relieved by treatment. When the disease attacks the middle third of the œsophagus the patient not uncommonly states that in the evening or during the night he experiences a feeling of a "load of uneasiness" or even of dull aching pain in the back or in the epigastrium. Should the carcinoma involve the lower end of the œsophagus, the patient seldom suffers from pain either during deglutition or at other times. This absence of suffering in such cases is somewhat remarkable. The presence of dyspnœa, aphonia, and cough depends upon the position of the tumour. When the upper part of the larynx is involved obstruction to breathing may be occasioned, as I have already shown, by direct pressure upon the air-passages by extension of the tumour into the larynx, or by œdema. Again, as a result of involvement of the recurrent laryngeal nerves, paralysis of the muscles of the larynx may be produced and give rise to aphonia or dyspnœa according to circumstances. The voice may also be impaired or lost as a consequence of the tumour invading the cavity of the larynx. Cough is a very common symptom, and may be caused in many ways—by saliva or food flowing into the larynx or trachea and there giving rise to catarrh, by the establishment of fistulous openings between the gullet and air-passages, or by reflex irritation. Patients affected with carcinoma of the œsophagus, partly on account of their weak physical condition, are very liable to attacks of tracheal and bronchial catarrh, even although there may be no evidence to show that the malignant growth in the œsophagus is interfering with the function of the lungs. When the growth is situated in the first part of the œsophagus its situation and extent may be easily ascertained by palpating the neck or by examination with the finger passed into the pharynx. Should the disease attack the œsophagus at a lower level, in order to gain information it is often necessary to examine the passage by means of bougies. When the bougie, one of large size to begin with, has been introduced into the œsophagus, it should be passed gently, no force being employed under any circumstances. If any obstruction be encountered in the course of the œsophagus, the bougie should be marked at the point in contact with the teeth, then withdrawn, and the distance from the point of the instrument to the mark carefully measured. The surgeon should then introduce a smaller instrument, and so on, gradually going down the scale until he either succeeds in penetrating the stricture or in assuring himself that the obstruction is complete. In cases of cancer of the œsophagus sometimes even the most careful use of bougies may cause injury and slight hemorrhage. In such instances the employment of instruments should be discontinued —*The Lancet*, January 2, 1892, p. 7, and January 9, 1892, p. 73

# 54.—ON THE RESULTS OF THE SURGICAL TREATMENT OF PYLORIC OBSTRUCTION.

By W. SENN, M.D., Professor of Surgery in Rush Medical College, Chicago.

[Professor Senn concludes an elaborate paper in which are embodied the detailed reports of thirteen cases of malignant disease of the pylorus, treated by gastro-enterostomy, as follows :]

TABLE OF THIRTEEN GASTRO-ENTEROSTOMIES FOR MALIGNANT PYLORIC OBSTRUCTIONS.

Case	Sex.	Age.	Duration of Disease.	Result.	Remarks.
1	Male.	67	1 year.	Recovered.	Died five days after operation, of exhaustion.
2	"	47	18 months.	"	Improved for several weeks; died of marasmus three months after operation.
3	"	35	6 "	Died.	Immediate cause of death, intestinal obstruction at site of operation; death three weeks after operation.
4	"	43	1 year.	Recovered.	Improved for several weeks; died of marasmus four months after operation.
5	"	38	6 months.	Died.	Immediate cause of death, perforative peritonitis.
6	"	69	1 year.	"	Cause of death, shock, two hours after operation.
7	"	32	9 months.	Recovered.	Death from hemorrhage into the stomach, from ulcerating carcinoma, nine days after operation.
8	Female.	45	1 year.	"	Died twelve days after operation, from croupous pneumonia.
9	Male.	71	16 months.	"	Improved for several months, and died of marasmus twenty months after operation.
10	"	37	4 "	Died.	Cause of death, shock, five hours after operation.
11	"	45	6 "	Recovered.	Died eighteen days after operation; immediate cause of death, marasmus.
12	"	35	9 "	"	Improved for several weeks, and died of marasmus three months after operation.
13	"	44	1 year.	Died.	Died eight hours after operation; immediate cause of death, shock.



*Remarks.*—Adding the 2 pyloro-plastic operations to the 13 gastro-enterostomies we have 15 operations on the stomach for malignant and non-malignant stenosis of the pylorus, of which number 10 recovered and 5 died, a mortality of 33·3 per cent. Of the 13 operations for carcinomatous pyloric obstruction on as many patients 12 were males and 1 female. The youngest patient was thirty-two years of age, the oldest seventy-one; average age, forty-six years and ten months. The duration of the disease could only be ascertained approximately, eighteen months being the longest and four months the shortest period intervening between the first manifestation of symptoms and the time of operation; average duration, ten months and ten days. In most of the cases vague symptoms of gastric derangement preceded the actual development of symptoms pointing to pyloric obstruction for several years, months, or weeks. In all of the cases the existence of pyloric obstruction at the time of operation was evident from the complexus of symptoms present at the time, the results of physical examination, and, in most instances, verified by digital exploration of the pylorus during the operation. In only one case did I fail in detecting enlarged lymphatic glands in the vicinity of the carcinoma, and that was the first case reported, in which I found an annular malignant stricture without involvement of the serous coat and adjacent lymphatic glands. This would have been a proper case for pylorectomy had the patient's general condition warranted such an operation. In all of the remaining cases the carcinoma was more extensive, and the lymphatic glands in its vicinity infiltrated, and in many of the cases the growth was connected with one or more of the surrounding organs by neoplastic adhesions. In all of these cases the local conditions were of such a nature that a radical operation by pylorectomy was out of the question, irrespective of the general condition of the patients. Analysis of the immediate and remote results of the thirteen cases of gastro-enterostomy shows the following: Eight of the patients survived the immediate effects of the operation and five died. Among the recoveries are included all cases in which the immediate cause of death could not be attributed to the operation. In Case I. death occurred five days after the operation, from exhaustion. Nothing occurred that would tend to show that the operation shortened life. The patient was extremely anæmic and emaciated at the time of operation, but he rallied from its immediate effects promptly; the symptoms of obstruction were relieved, but he gradually sank, and died five days later from simple exhaustion, due to the disease and its secondary consequences, and not to the operation. In two other cases reported as recoveries death occurred in one, twelve days after operation, from croupous

pneumonia, in the other, on the ninth day, from hemorrhage into the stomach from the ulcerating carcinoma; in both instances the external incision had healed, the symptoms of obstruction were removed, and gastric digestion was partially restored. The remaining five cases that recovered lived, respectively, one, eighteen days; two, three months; one, four months; and one, twenty months after the operation, and finally died of marasmus. The most remarkable of these was Case IX., the oldest patient on the list, who had been suffering from pyloric carcinoma for sixteen months, and who at the time of operation certainly could not have lived for more than a few weeks without surgical intervention. This patient recovered without a single untoward symptom, lost the cachectic appearance, gained a number of pounds in weight, resumed and conducted his business for eight months, and died of marasmus twenty months after operation. Billroth makes the statement that in none of his cases of gastro-enterostomy for malignant pyloric obstruction was life prolonged for more than a year after the operation. Two of my patients lived three, and one four months after operation, and in none of them did symptoms of pyloric obstruction appear after the operation. In Case III. an autopsy was made. The dilatation of the stomach had disappeared, the anastomotic opening was large enough to admit the tips of two fingers, and was lined throughout by mucous membrane. In the five fatal cases death occurred in from two hours to three weeks after operation. In three of these the patients succumbed to the immediate effects of the operation in two, five, and eight hours. One died of perforative peritonitis on the fifth day, and in one death was caused by intestinal obstruction three weeks after operation. In the last case the intestine was attached to the stomach at a point eight feet below the pylorus. At a point nearly in the centre of the opening in the bowel a sharp flexion was found at the autopsy, and in consequence of this flexion the mesenteric portion of the bowel formed a spur, which directed the contents of the stomach into the portion of bowel on the proximal side of the anastomotic opening. In view of the extent of the local disease, the gravity of the secondary lesions due to long-standing pyloric obstruction, and the serious impairment of the general health present in all the cases, the immediate and remote results as given above must be regarded as satisfactory.

The important lesson to be drawn from these cases is not to postpone operative treatment for pyloric obstruction until the patient's strength is so much reduced that death would be likely to ensue from the immediate effects of an operation of even very short duration. In a number of the cases reported above, an operation was advised in time, but was refused until



the patient had become convinced by sad experience that it offered the only chance of relief ; but in the meantime the local and general conditions had become so much aggravated that the prospects of success were reduced to a minimum. More than one of the patients, when he had reached this desperate condition, threatened to put an end to his sufferings by suicide in case an operation was refused, and this determination more than once turned the scales when I hesitated to carry into effect their request. Patients suffering from pyloric stenosis must be informed in time of the inefficacy of all methods of treatment short of removal or rendering harmless the obstruction by operative treatment. The results of gastro-enterostomy for malignant stenosis of the pylorus will improve and become more satisfactory as soon as the profession will sanction early surgical interference and patients can be made to submit to it as soon as a positive diagnosis can be made.

In conclusion, I beg to submit the following propositions :—

1. Pyloroplasty, as devised by Heineke-Mikulicz, is the safest and most efficient operation for cicatricial stenosis of the pylorus.

2. Pylorotomy in the treatment of carcinoma of the pylorus is a justifiable procedure when the disease is limited to the organ primarily affected and the patient's general condition furnishes no contra-indication.

3. Gastro-enterostomy by the aid of large, moist, perforated plates of decalcified bone should be resorted to in the treatment of malignant stenosis of the pylorus as soon as a positive diagnosis can be made, and a radical operation is contra-indicated by local or general conditions of the patient.—*New York Medical Record*, November 14, 1891, p. 594.

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## 55.—A NEW METHOD OF ENTERORRHAPHY.

By H. WIDENHAM MAUNSELL, M.D., Lecturer in Surgery,  
Otago University, New Zealand.

[The following is taken from an interesting paper on Intestinal Surgery.]

The following method of intestinal surgery was devised by me ten years ago.

With thorough aseptic precautions make an incision in the median line of the abdomen, sufficiently long (exenteration, if necessary) to enable you to thoroughly search the abdomen for the wounded or diseased portion of the gut.

Having found the part to be excised, bring it outside the abdomen with four to six inches of healthy gut on either side. Empty it of its contents by gently squeezing it between the

fingers and thumb. Clamp the empty gut in two places from four to six inches above and below the portion to be excised. Pack well around with warm, large, flat, aseptic, sponges.

Lateral laparotomy should be performed in all operations on the appendix vermiformis, cæcum, or any part of the colon. Make an incision over the diseased or injured structure.

*New clamp for bowel.*—Place a small flat sponge across the intestine, about four or six inches from the part to be excised, transfix the sponge and the mesentery close to the gut with a strong safety-pin. Pass the pin again through the sponge on the other side of the gut and clamp the pin, or better still, have two clamps prepared for immediate use with the sponges sewn firmly to the arched portion of the safety-pins. The sponge should be sufficiently large to compress the intestine against the pin, so as to effectually prevent extravasation of the contents.

The advantages are its extreme simplicity, its easy applicability, its innoxiousness, and its efficiency. The pressure can be regulated by the size of the sponge.

When Nature performs enterectomy successfully she invaginates the upper portion of the intestine into the lower, and when the peritoneal surfaces around the neck of the invagination have united by adhesive inflammation, the intussusceptum or invaginated bowel sloughs off with impunity.

Having cut off the cancerous, gangrenous, or injured portion of the intestine, bring together both ends of the bowel with two temporary sutures passed through all the coats of the intestine. The long ends of these sutures are left intact. One is placed at the mesenteric attachment of the gut and the other (exactly opposite) at the most distant portion of the bowel from the mesentery.

These temporary sutures are very important. They secure the complete peritoneal covering of the mesenteric attachment of both segments of the gut, help to maintain the proper relative position and accurate co-adaptation of the two cut ends, and facilitate their subsequent invagination through the opening made in the larger segment of gut.

Where enterectomy is performed for gangrene or injury, the lower or distal segment of the bowel is generally the largest; but where the operation is performed for stricture, cancer, or tumour pressing on or constricting the lumen of the gut, the upper or proximal portion is often much larger than the lower.

I then make an opening in the larger segment of the gut, through which the invaginated ends of the divided bowel may be dragged by the long ends of the temporary sutures, and when they are accurately sewn together all around they may be pulled back into their normal position.



The edges of the longitudinal slit made in the bowel, which begins an inch from its transverse section, should be well turned in and brought together with a continuous suture passed through the peritoneal and muscular coats only. It is a well-ascertained fact that a slight longitudinal contraction of the lumen of the bowel does not interfere with its physiological functions.

By this simple device, the perfect union by suture of a complete transverse section of the bowel, with its circumferential peritoneal surfaces in exact position and all the knots of the sutures on the inside, can be accomplished.

While an assistant holds the ends of the temporary sutures, the surgeon passes a long, fine, straight needle, armed with a stout horsehair or very fine silkworm-gut through both sides of the bowel, taking a good grip (quarter of an inch) of all the coats. The suture is then hooked up from the centre of the invaginated gut, divided, and tied on both sides. In this way twenty sutures can be placed rapidly in position with ten passages of the needle. The temporary sutures are now cut off short and the sutured ends of the bowel painted with Woelfler's mixture of alcohol, glycerine, and colophony, and blown over with iodoform, the same that he applies to the surface of the raw stump after removal of the tongue. The bowel is then pulled back. The longitudinal slit in the gut is well turned in and closed with a continuous suture and painted with Woelfler's mixture and iodoform powder.

The simplicity of this operation and the universality of its applicability to all parts of the intestinal tract, may be taken as a measure of its perfection. It is the only operation as yet devised where rapid circular enterorrhaphy (the sutures passing through all the coats of the bowel, leaving the knots on the inside) can be accomplished.

Firmly suturing all the coats gives great healing capacity to the ends of the bowel, and the stitches are not likely to tear out.

The most important element of success, next to the efficiency of the operation, is its speedy performance.

After one has isolated the bowel to be resected with the sponge clamps, circular enterorrhaphy by the above method can be accomplished in ten minutes, which is less than half the time required for lateral apposition (intestinal anastomosis) with decalcified bone plates.

I find this operation is especially easy in man, for the coats of the bowel are thin and the lumen correspondingly large, so that invagination may be accomplished with marvellous ease. I have performed this operation successfully on very small dogs, where the coats of the bowel are very thick and muscular as compared with the lumen.

Professor Senn says : "I am convinced that circular enterorrhaphy, as it is now commonly performed, is attended by three great sources of danger : " (1) Perforation at the mesenteric junction not covered with peritoneum ; (2) length of time required in performing the operation ; (3) Number of sutures required.

To obviate the danger of perforation at the junction of the bowel not covered by serous membrane, the temporary suture at the mesenteric attachment is passed through all the coats of the bowel previous to invagination and so draws the peritoneum over the denuded space at the attachment of the mesentery. This secures for the whole circumference of the bowel a perfect peritoneal covering.

As to the length of time required for the operation, this is a most important consideration. Professor Senn says : " Even after I had acquired a fair degree of manual dexterity in suturing the bowel, I seldom spent less than an hour in making a circular enterorrhaphy with a double row of sutures."

The Czerny-Lembert method of suturing the bowel causes great delay, as the surgeon has to pick up carefully the peritoneal and muscular coats of the bowel thirty or forty times, if possible, without perforating the mucous coat. Lastly, the double line of sutures may cause gangrene between the stitches. — *The American Journal of the Medical Sciences*, March, 1892, p. 245.

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## 56.—ON LAPAROTOMY FOR INTESTINAL PERFORATION IN TYPHOID FEVER.

By WELLER VAN HOOK, M.D., Surgeon to the Chicago Charity Hospital.

[Dr. Van Hook reports three cases of typhoid fever in which he has opened the abdomen and closed the perforation of the intestine. The first case was that of a female æt. 31, in whom perforation occurred on the eighth day of a relapse which had set in fourteen days after the defervescence of the initial attack. The abdomen was opened in the middle line. No gas escaped (the liver-dulness had not been altered), but more than a pint of fluid feces and exudate, mixed with flocculi of lymph, was removed. There was general peritonitis. The opening in the intestine was found after drawing out two or three coils of intestine. The feces were carefully removed from the surface of the intestine, and the opening closed with three longitudinal rows of interrupted Lembert sutures. Dr. Van Hook did not look for other perforations because there seemed a chance of



recovery if the patient could be got to bed quickly. The abdominal sac was next thoroughly washed out with hot sterilized water. The omentum was carefully drawn over the injured coil of intestine, and sutured to the mesentery. A large drainage-tube was passed to Douglas's pouch, and the remainder of the abdominal wound closed. The temperature remained at 103° for four or five days (it was 106° immediately before operation), when the symptoms of peritonitis began to disappear. The tube being withdrawn, the wound healed, and the symptoms of typhoid, running a normal course by a typical defervescence, ended in two and a half weeks. The patient is now enjoying perfect health. The second case died on the table. The third case survived the operation fourteen hours. Dr. Van Hook concludes his paper as follows :]

The statistics of the operation are as follows :—1884 (Sept.)—Mikulicz : 4 cases, with one recovery, though unfortunately the diagnosis is doubtful ; 1885.—Lücke : resection, death ; 1886.—Escher : 1 case, recovery, but the case is regarded by Louis as one of appendicitis ; 1886.—Greig Smith : 1 case, doubtful diagnosis, death ; 1886.—Bartleet : 1 case, death ; 1887.—Bontecou : 1 case, death ; 1887.—Morton : one case, death ; 1889.—Bontecou : 1 case, death ; 1889.—Senn : volvulus and perforation, 1 case, death ; 1889.—Hahn : 2 cases, death ; 1890.—Kimura : 1 case, death.

To these 15 cases are to be added that of Taylor, 1891, and the three reported here, making in all 19 recorded laparotomies, with four recoveries. The case of recovery of Mikulicz was stated by the operator to be of doubtful diagnosis. That of Escher was probably a perforation from appendicitis. Taylor's case should not be counted, as it was operated upon ten days after the onset of symptoms, and is, furthermore, not demonstrated to have been a typhoid perforation. If we include all the doubtful cases, the present recovery is, as appears from the literature at command, the seventeenth case and the fourth recovery. If we include only closely diagnosticated cases it is the twelfth case and the first recovery.

The *technique* of the operation, which has for its object three chief ends—closure of the perforation, cleansing of the peritoneum, and the institution of drainage—must be modified to meet the obvious primary considerations of minimum consumption of time, minimum manipulation of intestines, and minimum administration of anæsthetics, together with maximum accuracy in closing the perforation and maximum care in the toilet of the peritoneum. The incision should be median, should lie at first below the umbilicus, and should at first be from two to four inches long, depending upon the thickness of the abdominal walls. If found desirable, its length

may at any time be increased with the scissors. In the majority of instances the perforation is within two or three feet of the cæcum, usually in the ileum, rarely in the colon. The perforation should first be sought by inspecting the presenting coils of the small intestine. In some cases (in two of my own) the perforation was found in this way without drawing out more than two feet of intestine. After examining these few coils, the appendix and small intestine, beginning at the cæcum, must be carefully and completely examined on account of the great probability of finding the opening in one of them. The coils must be carefully drawn out with the finger tips, all stretching and forcible dragging being specially avoided for fear of tearing new holes through the ulcerated walls. When a small coil has been examined, it should be quickly and gently replaced. It must be remembered that quantities of "plastic lymph" usually cover the bowels where the peritonitis is oldest. They will often guide the operator to the opening, sometimes obviating the necessity of a systematic search. Occasionally the perforation will be found wholly or partly hidden by such a mass. If the operator has begun at the cæcum he should continue to search successive coils of the small bowel until the perforation is found or until the duodenum is reached. The colon may next be examined. Success in this operation will, however, rarely be obtained when so much manipulation has been resorted to. But, fortunately, it will be but very rarely required. The use of the test for perforation by gas-insufflation will not be resorted to, because in peritonitis with paretic bowel-walls the gas is difficult to remove; it may make openings in the bowel, and also intense artificial tympanites may interfere with respiration.

Once the perforation has been found, its treatment demands much care. In one recorded case, that of Lücke, the intestine was resected, but this can but rarely be required, since, as a rule, the perforation is only one or two millimetres in transverse diameter. It is indicated when the bowel is extensively ulcerated so that stitching is impossible. Orth tells us that the ulcers are almost always on the free border of the intestine. In this case the gut should be held up by an assistant and the opening quickly closed by a double row of interrupted Lembert sutures. The ulcer should not be trimmed. It does no good to trim it, because the frayed edges are turned inward, and the trimming is a disadvantage as it takes time. The line of sutures should be parallel with the long axis of the bowel. Interrupted sutures must be used because the intestinal walls are so oedematous and soft that continuous sutures tear out in places, loosening the whole line.

When the first opening has been satisfactorily closed, shall we search for another? It would be erroneous to make a



protracted search for a second opening, if one had been fortunately found, since, as a rule, only one opening exists. Still, as most perforations occur near the ileo-cæcal valve, it would be advisable to examine the bowel near the cæcum, especially if the first opening, by occurring in that region, rendered easy such an exploration.

The perforation having been closed, the coil of intestine in which it occurred is gently held by an assistant at one end of the wound until the peritoneal sac is carefully cleansed. This should be done preferably by means of a thick stream of sterilized salt solution, six-tenths of one per cent., at a temperature of from 105° to 112°. In emergencies boiled water will answer. The wound-edges should be held up and the abdomen freely and frequently flushed until the washings are clean. This part of the work is essential and can be accorded as much time as is necessary, especially since the action of the hot solution is stimulating and tends to prevent shock.

The coil of bowel that has been held by the assistant during the irrigation is now again examined to see that the stitches are in place and that the lumen of the tube is not dangerously diminished. The omentum is now drawn down over the coil of intestine and without tension fastened to the mesentery. Dr. F. B. Robinson has informed me that in his experiments on dogs he found that, unless the omentum is fastened by two sutures placed at its margin, it has a tendency to roll up. The hint may be taken in the disposal of the omentum over the coil of intestine in which the perforation has occurred.

Drainage is best secured by means of a large glass tube passed to the lowest part of the pelvis. The outer end of the tube is so arranged that it can, without disturbing the patient, be easily kept dry by suction every half hour. The nurse must be carefully instructed how to perform this important duty.

If the patient is not in a state of collapse, a rectal injection of an ounce each of magnesium sulphate, glycerine, and water should be given to prevent peritoneal exudation by producing a few watery passages.

The anæsthetic should be chloroform, on account of its rapid, easy action, its slightly detrimental effect upon the lungs and kidneys, and its tendency to excite but little vomiting. Administered to full anæsthesia until the perforation is found, it may be given in less quantity while the intestine is being sutured. A skilful assistant will, after giving a hypodermatic dose of morphine, conduct the entire administration with only a few drams of the drug, watching the steps of the operation to see when the different degrees of anæsthesia are required.

The relation of the after-effect of the operation to the typhoid fever must be looked upon as a subject for serious study. Yet

the operative danger is deeply overshadowed by that of the peritonitis, which we must expect to prove fatal in very many cases, even when rational treatment has been carried out. It is only by rapid, skilful, but above all by very early interference, that we can hope to materially reduce the death-rate from perforative peritonitis in typhoid fever.—*Medical News*, November 21, 1891, p. 594.

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### 57.—ON SURGICAL AID IN APPENDICITIS.

By THOMAS JONES, F.R.C.S., Surgeon to the Royal Infirmary, Manchester.

[Mr. Jones in the course of a paper on this subject makes the following remarks upon operative treatment :]

For the purposes of treatment, cases of appendicitis may be appropriately divided into those that are curable by medical and expectant means and those that demand operative interference. The difficulty lies in differentiating the one class from the other.

To the first class will belong those mild cases of appendicitis which will yield to simple remedies, such as rest, sparing amount of food (administered by the rectum should there be sickness), sedatives to relieve pain, and the strict avoidance of aperients.

I now approach the most difficult part of my subject—the question of operation. When, in the course of an appendicitis, does this become necessary? Some hold that it is requisite, if by the second, certainly by the third day, and *a fortiori*, if later, the following indications exist: If there is abdominal pain most marked in the right iliac fossa, and especially if tenderness exists at McBurney's point, attended possibly with nausea and vomiting, and further, if there is rigidity of the abdominal wall; in other words, an operation is indicated if the symptoms of appendicitis continue urgent after the third or fourth day of the illness.

I am well aware this is not the recognised teaching of English surgeons generally; still, past experience and a careful perusal of published cases compel me to recommend it. We must always remember that in a considerable proportion of the fatal cases death occurs at a comparatively early stage, and that if an operation is to succeed it must be undertaken early. American surgeons—pioneers in this most important branch of surgery—recommend operation at the latest on the third day.

It is very difficult, however, to lay down any absolute rule on such a point, as the cases vary so much in severity. My own



opinion is that we should be guided by the symptoms. If after waiting a few days we see no sign of resolution, then an operation is indicated, the dangers connected with an exploratory incision being insignificant compared with those inseparably associated with delay. A few months ago, it will be remembered, there was an interesting discussion on this subject at the Clinical Society of London, and with your permission I will refer to it for a moment. In the first place, notes of seven cases of removal of the appendix were presented at the first meeting. Five of the seven patients were males, the sex was not given in the remaining two cases, and the ages varied from fifteen to twenty-four years. In the discussion that followed the narration of these cases Mr. Treves defended the medical treatment of appendicitis, and condemned the wholesale sacrifice of the appendix, the treatment so much in vogue at the present time. He would rather remove the appendix in these cases during a quiescent period. In acute cases he was against its removal before the fifth day, holding that the cases of death on the third, or even the fourth day were almost unknown. Other surgeons, however, who presented cases at this meeting did not endorse Mr. Treves' views; indeed, the consensus of opinion of those whose experience of these cases permits them to speak with authority, is, that early operation is imperatively necessary.

The important question for us to settle is, How long should the physician go on with the medical treatment of cases of appendicitis before he hands them over to the surgeon? In acute perforative appendicitis, ushered in by sudden severe pain in the cæcal region, especially if accompanied by acute peritonitis, an operation should be resorted to without any delay. Operation is also indicated in recurrent appendicitis with elevation of temperature. We are to operate in cases when the fever is persistently high,  $100^{\circ}$  to  $102^{\circ}$ , and refuses to yield to medical treatment. Oedema of the abdominal wall, although rarely present, is a symptom which points to the necessity for operation, as it invariably indicates the presence of pus.

Let me warn you against using the hypodermic syringe in the search for pus in cases of appendicitis; an exploratory incision is much more certain, and less dangerous than the needle. If the services of a needle are to be brought into requisition at all, they must be reserved for a late period of the disease.

The surgical treatment of appendicitis resolves itself into a free incision through the structures overlying the swelling, to provide a free escape for the localised peritoneal abscess. The incision—a liberal one—three to four inches in length, is usually made in the right linear semilunaris, the centre of it corresponding to the tender spot already mentioned. After the pus

is evacuated the cavity should be explored with the finger, and if the appendix be readily discovered it should be ligatured at its base and removed. Should it be found fixed down by adhesions, as in many examples of the recurrent forms of the disease, its removal must not be attempted, as we have abundant proof that leaving it in no way militates against recovery. Moreover, the difficulties encountered in finding a distorted appendix are considerable. The abscess cavity is to be freely irrigated with a warm saturated solution of boracic acid, and when the appendix is removed the stump is to be cleaned with a sublimate solution 1 in 1,000. As a rule, it is better to employ glass instead of rubber drain tubes; this is very necessary in those distressing cases where much abdominal distension exists, as the soft tubes are apt to be compressed so as to render them useless. The upper and lower ends of the incision are brought together, the drain tube having its exit at the centre or below.

It is most gratifying to find that in many of the cases of appendicitis operated upon at the early stage relief speedily follows, the patient quickly passing from a position full of peril into one of comparative comfort. Those who have watched such cases are surely convinced of the immense superiority of surgical treatment. In some cases the pus has already made its way through the structures covering it, and is subcutaneous. The dangers of an operation are then reduced to a minimum.

The most desperate cases are those in which a general suppurative peritonitis is added to the localised trouble. These demand free irrigation of the abdominal cavity, and in order to carry out this treatment effectually a median, in addition to the lateral, incision is generally required. Even with careful treatment, most perseveringly carried out, the mortality in these complicated cases is still very high. Not unfrequently a distressing distension of the abdomen sets in, due to septic paralysis of the gut with obstruction. Saline purgatives, combined with repeated washing out of the stomach, should be resorted to and persevered with, notwithstanding any sickness which may exist. There are cases in which it has been recommended that, as a last resource, enterotomy should be practised.

Let me, before I conclude, return for a moment to the important question of removal of the appendix. Should this be carried out as a routine practice, when the abscess is opened? It seems to me there are grave objections to the universal adoption of the plan now so generally followed of removing it in all cases. No doubt in those cases where the appendix is readily found and easily isolated, its removal is desirable. On the other hand, when the relations of the parts are considerably distorted, there may be much difficulty in finding it, and even



when found its removal may be impossible from the character and extent of the adhesions. This is especially true of the recurrent cases. I will hazard the opinion, from my own experience, that the appendix, if left behind, has no adverse influence on the course of the case, even if it be gangrenous. The slough will be cast off, and healing will proceed in a satisfactory manner.

To sum up, then: The surgical treatment of appendicitis should be adopted at a much earlier period than has been heretofore usual, and consists in laying open the abscess cavity, washing it out, and introducing a drain. This is to be accomplished without undue exploration, and usually without removal of the appendix. In the majority of cases the opening into the abscess can be made without trenching on the general peritoneal cavity. Lastly, the pus in a localised peritoneal abscess is found in pouches, of which there may be several. They must all be laid open, cleaned and drained, as an overlooked pocket in the pelvis may defeat the treatment and induce a fatal general peritonitis.—*The Medical Chronicle*, January, 1892, p. 220.

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#### 58.—ON FIBROUS-STRICTURE OF THE COLON.

By HARRISON CRIPPS, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital.

Stricture may affect any portion of the colon; but I find after considerable research, both in published cases and museum specimens, that in at least three-fourths of the cases the obstruction is situated in the sigmoid flexure. The cause of the stricture is either malignant or fibrous; the former results from adenoid cancer, which forms a ring-like growth surrounding the bowel. Fibrous stricture appears to be the result of chronic inflammatory mischief, originating either in the coats of the bowel or in the fibrous tissue in its neighbourhood. Thus, ulcerations of the mucous membrane or the formation of abscess, either in the walls of the bowel or the pelvic fascia over which it runs, may be the starting point of the disease.

The diagnosis of a stricture in the large intestine at an early stage must necessarily be difficult; and, even as the disorder advances and the symptoms become more marked, it is not always easily made. Vague colicky pains with a tendency to constipation may be at first present. As the contraction increases the symptoms become more decided. A rumbling of the intestines with recurring attacks of pain is observed, while there is often a frequent desire to go to the closet. Small

diarrhœic motions may be passed, or only a little discharge and wind comes away. The irritability of the bowel, so far as I have observed, seems to be greatest on first getting up in the morning. Sometimes at intervals a well-formed solid motion may be passed. This does not negative the fact that a stricture exists, for I have known fair motions passed where a subsequent post mortem has disclosed a stricture which would not admit the little finger. Such motions must, of course, be formed by accumulation below the narrow part.

At the later stages of stricture vomiting occurs, but vomit of a fæcal nature seems rarely to be present till the obstruction is complete. It occasionally happens that obvious symptoms of intestinal obstruction, accompanied by fæcal vomiting spontaneously give way with a free discharge of fæces by the rectum. But the frequent occurrence of violent fæcal vomiting extending over a long period without fatal result, as in the first case recorded, must be very uncommon. Such attacks seem probably due to the upper opening into the stricture becoming temporarily blocked by a scybalous mass, which subsequently gives way to the churning action of the bowel.

The diagnosis between malignant and fibrous stricture of the colon must always be a matter of difficulty. Occasionally however, an inflammatory origin is suggested by the manner in which the symptoms commence. This was especially so in one case where the sudden onset of the pain, relieved after a few days by an attack of diarrhœa, and a copious purulent discharge, left little doubt that an abscess had formed and burst, for the patient had previously been in good health and dated all her subsequent troubles from this time. If a fibrous stricture results from the healing of an ulceration, the differential diagnosis is surrounded with difficulty, for the symptoms of an ulcerated colon closely resemble those of malignant disease. Without attempting to go into the detail of the differential diagnosis between simple and malignant strictures, I may mention in passing that I have found the following points of advantage :

The duration of the symptoms may throw light on the case. Although malignant disease in its earlier stages progresses slowly it must be remembered that when it has advanced sufficiently to produce well-marked stricture, its subsequent course is comparatively rapid, and a fatal termination not far off. Indeed, it will be rarely found that a patient with cancer lives a couple of years after the symptoms of stricture become marked.

The character of the discharge helps towards diagnosis. In malignant disease it is generally considerable, while, if not at first, it soon becomes dark and blood-stained. In fibrous



stricture, on the other hand, the discharge may be comparatively slight, consisting of simple mucus or muco-pus. It is true that in advanced cases where there is much secondary ulceration, the discharge may be of a coffee-ground colour as in cancer. When the stricture is due to cancer an observant nurse or patient may notice little flesh-like fragments in the discharge, an examination of which under the microscope will at once demonstrate the presence of adenoid cancer. The general condition of the patient, as shown by weakness, cachexia, and loss of weight, must be taken into consideration, for these symptoms, though not always absent in simple stricture, form a marked feature in malignant disease.—*British Medical Journal*, December 26, 1891, p. 1348.

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### 59.—A SUGGESTION FOR THE TREATMENT OF IRREDUCIBLE INTUSSUSCEPTION OF THE BOWELS.

By ARTHUR E. BARKER, F.R.C.S., Surgeon to University College Hospital.

[Mr. Barker's paper contains the narratives of two cases in which the method described below was carried out, but without success.]

In the discussion which followed the reading on May 10th, 1887, of a paper which I had the honour to present to the Royal Medical and Chirurgical Society on a case of excision of an intussusception of the sigmoid flexure of the colon I was asked how I should deal with a case of intussusception in which the mass could not be reached from the rectum, and was found to be irreducible on opening the abdomen. My reply was that the possibility of such a state of things had occurred to me long ago, and that I had formulated an operation to meet the difficulty, but had not had as yet an opportunity of putting it into practice. I then described this procedure briefly to the meeting, and now propose to publish it in detail in the hope that it may be the means of saving life in some cases belonging to a class hitherto regarded as almost hopeless. I have waited for more than five years for an opportunity of putting this method into practice in the living body, and testing its feasibility and practical value. Having during the past summer been called upon to deal with two cases of irreducible intussusception, and having in each employed this procedure, the time appears to have arrived to make it more generally known, and to suggest its being tested by other surgeons. For, although in the cases in which I used this method it did not prevent a fatal

termination, the attempt proved that the operation was quite feasible, and could be completed in a reasonable time and without much difficulty. It also showed, I think, that it was correct in principle, and that the fatal result was not due to any inherent defect in the procedure itself, but to the desperate condition of these particular cases. And I cannot help feeling that under less unfavourable conditions, and with an increased experience of details, this method will prove very successful.



FIG. 1.

First step : to join intussusceptum and intussusciens above by circular continuous suture.

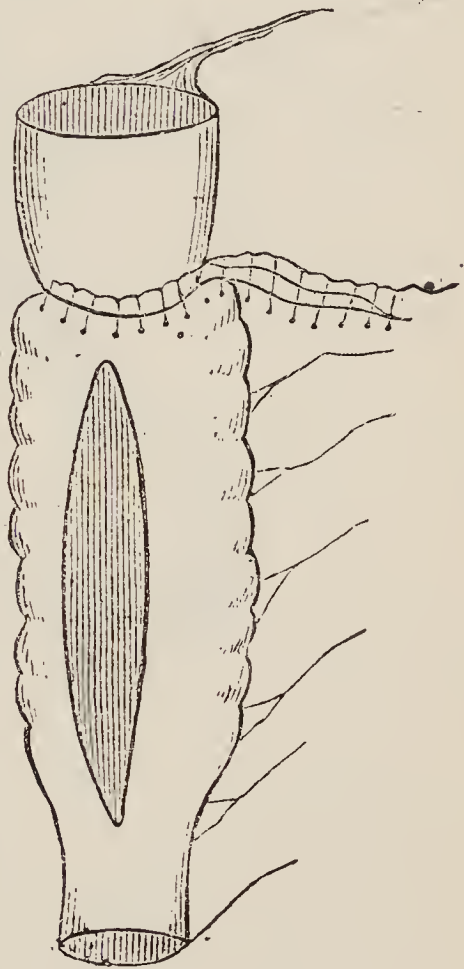


FIG. 2.

Second step : to open intussusciens by longitudinal incision.

The procedure is as follows :—Given a case of intussusception which cannot be reached from below, and which on opening the abdomen is found to be so tightly strangulated that reduction, even if feasible, could only end in disaster, then, instead of forming an artificial anus on the one hand, or, on the other, resecting the whole mass of damaged bowel directly, and suturing the divided ends together (both most formidable measures which have so far been followed almost invariably by



death), I proceed as follows:—At the point at which the intussusciens receives the intussusceptum the two portions of the bowel are at once united by a continuous circular suture of fine silk taking up the serous and muscular coats of each, and carried on to the mesentery. (Fig. 1.) A longitudinal incision is then made for about two inches through all the coat of the intussusciens on its free margin (Fig. 2). This gives access to the sausage-like intussusceptum within. The latter is then

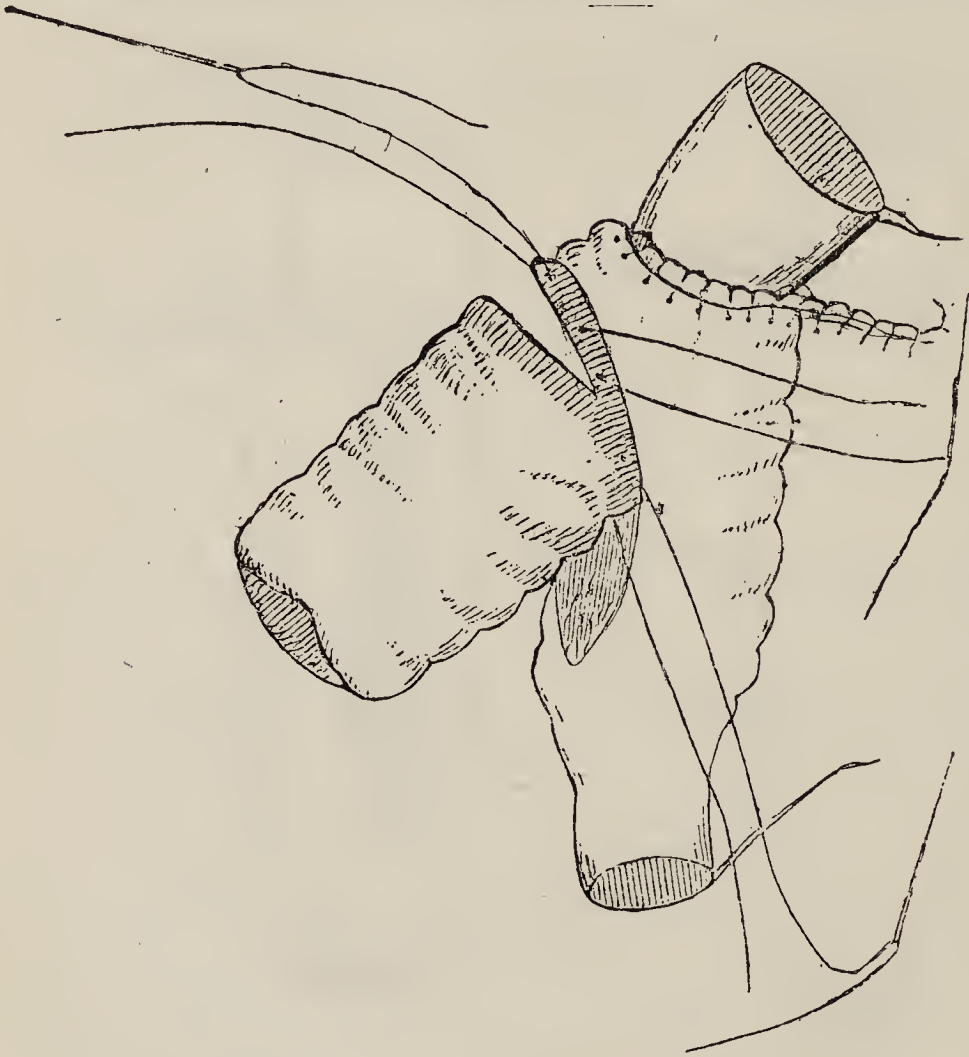


FIG. 3.

Third step : to draw out intussusceptum, cut it off, and suture its divided edges.

drawn out through this incision, and is cut across close to its upper end (Fig. 3) ; or, if too long to be first drawn out, it may be cut across *in situ*. A few stout silk sutures are, however, passed through all the walls of the stump as the mass is gradually cut off (Fig. 3), and are tied tightly so as to keep the serous surfaces in contact and control all bleeding from the vessels entering it at its mesenteric attachment. The stump is now cleansed, dried, and dusted with iodoform, and is allowed

to drop back through the incision into the lumen of the intussusciens. Then the longitudinal incision in the latter is closed by a continuous suture from end to end (Fig. 4). Toilet of the surrounding parts and closure of the abdominal wound completes the operation, which in my first case only lasted half an hour, and in my second a little longer. In a future case I shall look forward to finishing the whole operation in a much

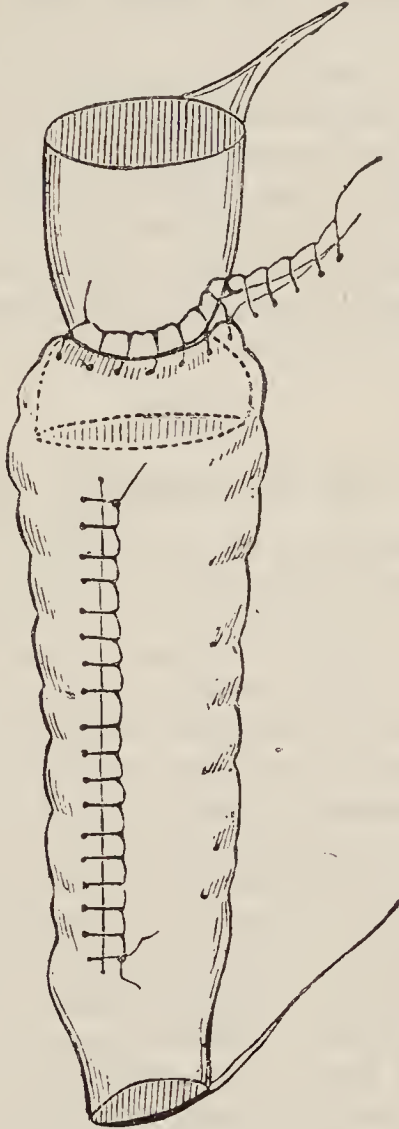


FIG. 4.

Fourth step : to close longitudinal incision, leaving stump of intussusceptum inside.

shorter time and with much less manipulation. Now, in this operation the resulting junction of the bowel is just what we aim at in the far more elaborate procedure of direct resection of the bowel. But we have the great advantage, besides the saving of time, of not interfering with possible adhesions at the point of strangulation or with the mesentery. Moreover, the vessels of the latter are probably blocked by the strangulation



at a point above that at which they are cut, and, if they are not so, they are closed by the same sutures which bring together the divided edges of the stump.

In both my cases the operation was practically extra-abdominal, and was comparatively easy. The principle of the procedure is, as I pointed out in my first notice of it at the Royal Medical and Chirurgical Society, to imitate what nature does in those rare cases in which the intussusception is thrown off by gangrene. But by this method the part that would slough is boldly cut away without disturbing the adhesions which form round the upper end. Moreover, these adhesions are reinforced by sutures applied first on their proximal (Fig. 1) and then on their distal aspect (Fig. 3). My impression is that the sutures used for the divided surface of the intussusceptum will not require to be many. Three or four towards the mesenteric aspect, which will secure the vessels, will be, I think, enough.—*The Lancet*, January 9, 1892, p. 79.

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#### 60.—ON THE TREATMENT OF PILES.

By T. LAUDER BRUNTON, M.D., F.R.S., Assistant Physician to St. Bartholomew's Hospital.

In the treatment of piles, we may consider, first, how we are to keep the liver in such a condition as to maintain a free supply of blood through it. For this purpose, we should insist on moderation in cases where we have reason to believe that either the food or the stimulants taken are in excess of the wants of the organism. The occasional administration of small doses of a mercurial purgative, followed by a mild saline, tends to keep the liver free and to prevent piles, although one may not know the exact *modus operandi* of the mercury upon the liver. Of course the saline ought not to be too violent, or it will tend to cause local congestion and make matters worse. Aloes bears an evil repute on account of its irritant action upon piles, but its effect depends upon the quantity given; and while a large dose of an aloetic pill will almost of a certainty produce rectal irritation, small doses such as  $\frac{1}{10}$  grain of aloin three times a day with each meal, will tend to lessen piles by keeping up a gentle peristaltic action and preventing constipation. My friend, Mr. Archer, tells me that he has used with invariable success half an ounce of castor oil given to begin with, and followed up by half a drachm every morning for a month.

I have already discussed the prevention of portal congestion from chills, but when it has occurred a useful application is a hot water india-rubber bag, with a plush or flannel covering,

put under the back of the neck, and a similar one over the liver. These tend to restore the equilibrium of the circulation and lessen portal congestion.

Exercise is useful in keeping the liver free, but this exercise must be of a certain kind. As I have already said, the liver is a very spongy organ, the blood pressure within it is very low, and the pressure under which bile is secreted is also very low. Both blood and bile, therefore, tend to stagnate within it, but this stagnation is lessened by the liver being rhythmically squeezed, more or less forcibly, between the diaphragm and abdominal muscles. In a person standing or sitting upright, or lying on either side, this squeezing action is very slight; in a supine posture it is slightly greater. In ordinary walking it is also very slight, but in walking up a hill, and especially in climbing a mountain, the amount of pressure to which the liver is subject is considerable, because the muscles of the abdomen in such exercise are actively contracting, and the movements of the diaphragm during the panting breathing which occurs on exertion are much greater than when a person is quiet. A similar process of squeezing occurs in brisk horse exercise, either trotting or cantering, and thus riding is frequently beneficial for piles, notwithstanding the increased local irritation from contact with the saddle. Another useful exercise is to touch the toes with the fingers, keeping the knees straight, several times every morning.

A regular action of the bowels is of the utmost importance in preventing piles, because it tends not only to keep the circulation through the liver free, but prevents straining. The different means of ensuring this regularity of action would require a paper to themselves, but a teaspoonful of compound liquorice powder at night, or confection of senna either alone or with confection of sulphur and confection of pepper, are perhaps amongst the most widely employed of all the laxatives. No doubt the best times ordinarily for emptying the bowels is after breakfast, but if the piles tend to come down much it is better for the patient to get into the way of emptying the bowels every night before going to bed, so that he may secure rest in a recumbent position for several hours. Some patients in whom the piles come down easily spend a day of misery if they are obliged to go to the closet in the morning instead of the evening, because the piles tend to remain down all day and worry them.

The soft unprinted papers which are now commonly sold are a very great improvement upon the ordinary newspapers, but even they sometimes give rise to a good deal of irritation. In cases where the piles are very troublesome it is always well for the patient to wash the anus immediately after a motion. It is sometimes impossible for the patient to go from the closet to his



bedroom and wash there, and I have found the easiest way of getting over this difficulty is for him to carry with him to the closet a soft sponge in a small india-rubber bag; an ordinary tobacco pouch is best. If it should be an earth closet, the patient should take the sponge full of water, and, after cleansing the anus gently with paper, he may thoroughly sponge, and then return the sponge to the bag. The anus may then be dried either with the porous paper, or with a small napkin which he carries with him. In the case of a water closet the sponge may be taken dry, and after the closet has been used the plug may be drawn and the sponge dipped in the clean water which then fills the pan, and used in the way I have just mentioned. The patient should also take with him to the closet a small bottle of some preparation of hamamelis and some prepared wool. This should be sheep's wool deprived of its fat and not cotton wool. The wool thus prepared is quite absorbent and takes up the hamamelis readily. It differs from the cotton wool in one important particular, for it forms a kind of felt, which the cotton does not. A small pledget of the wool about the size of a hazel nut should be dipped in the hamamelis and introduced within the anus, and a similar pledget, likewise soaked in the hamamelis, should be introduced so far within the anus that a few fibres of it at least are caught by the sphincter. The external pledget soon becomes felted together into a regular pad, fitting completely to the anus, and being retained by the few fibres caught by the sphincter, it will remain there for twenty hours, while a similar pad of cotton wool might not remain as many minutes. This wool pad not only keeps the hamamelis in constant contact with the piles, but also affords a certain amount of mechanical support. In patients suffering from piles we frequently notice an almost involuntary tendency to sit on the corner of a table, or on the arm of a chair, or to put the hand behind and press upon the anus from time to time; but the woollen pad, by affording a constant support, tends to lessen the necessity for pressure in any of these ways. Where the piles are chiefly internal the hamamelis may be applied in the dose of half-a-drachm to a drachm, either diluted with water, or as is sometimes preferable, undiluted, by injecting it within the anus by means of a glycerine syringe. The success of this treatment in stopping hemorrhage from piles is really extraordinary; within a week I have stopped the hemorrhage from piles which were bleeding so profusely that a colleague thought that an operation would be necessary. But not only does the hamamelis stop hemorrhage, it lessens the uncomfortable weight and aching pain which so frequently accompany piles, especially when they do not bleed; and it will even greatly lessen or remove the pain which occurs in piles when they become inflamed. I have tried

various preparations of hamamelis, but I have not found either the tincture or the local extract, both of which are to be found among the recent additions to the *Pharmacopœia*, nearly so satisfactory as some of the proprietary preparations.

The patient requires to be carefully instructed in the mode of using it, otherwise disappointment may ensue. Some time ago a lady who was passing through London on her way to the Continent was seized with a sharp attack of piles. I was asked to see her at an hotel, but, not being able to go for a couple of hours, I hastily wrote down a prescription for hamamelis and gave it to the maid with, as I thought, definite instructions how to apply it. On going to the lady two hours afterwards, I found that she had used the whole bottle, but with no relief whatever; nor was this to be wondered at, for the piles were internal, and the hamamelis had only been used externally. So satisfactory have I found hamamelis, that I do not often now employ ointments.

In obstinate cases of piles, great relief is afforded by the anal pad. The simplest is one of india-rubber with elastic straps to hold it in place, but it does not give, I think, quite the same relief as one in which the pad is pressed against the anus by a spring attached to a metal girdle which passes round the loins.

Before concluding this paper, I may mention another affection which frequently goes along with piles, and is most annoying, namely, pruritus and eczema round the anus.

I have not attempted to discuss all the methods of treatment; I have rather brought forward some which I have found practically exceedingly useful, and which are, I think, at least in their details, not so widely known as they deserve. I am quite conscious how trivial they are, but the number of cases in which piles occur give an importance to any useful method of treatment, however trivial it may be in itself, and this must be my excuse for bringing the subject before the Society.—*British Medical Journal*, March 12, 1892, p. 541.

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## 61.—CANCER OF THE RECTUM REMOVED BY PARTIAL RESECTION OF THE SACRUM.

By JOHN C. DAVIE, M.D., Victoria, British Columbia.

[Dr. Davie's patient was a gentleman of 50, upon whom a preliminary inguinal colotomy had been performed. Dr. Davie gives the following description of the sacral operation performed by him:]

The patient, under ether anæsthesia, was placed in Sim's position, lying on the right side with the knees well drawn up;



a transverse incision,  $4\frac{1}{2}$  inches long, was made across the body of the last sacral vertebra,  $\frac{3}{4}$ -inch above the cornua coccygia, extending down to the bone; from the two ends of this incision, and at right angles to it, incisions were made downwards, each four inches long, through the entire thickness of the gluteus maximus; the soft parts were reflected off the surface of the sacro-sciatic ligaments; both the ligaments were divided close to the edge of the bone for about an inch. The forefingers thrust into these openings were made to meet and free the rectum from the anterior surface of the sacrum. The sacrum was then sawn through, and the flap with the bone attached turned down. To allow more space, an extra  $\frac{1}{2}$ -inch of the sacrum was removed with bone forceps. The hemorrhage at this stage of the operation was free, but easily arrested by the ligature of a few small vessels. Upon examination I found that the lower edge of the growth could be felt just below the point where the sacrum was cut across. I accordingly with my fingers stripped out the rectum from its sacral attachments until I got well above the growth, ligaturing and dividing two or three tough fibrous bands. I had thought that it might prove possible also to strip out the rectum anteriorly from its peritoneal envelope; this is easily done on the cadaver where the tissues are normal, but the growth in the case operated on had so matted the tissues together that such separation was impossible, and I soon tore into the peritoneal cavity.

I then divided the peritoneum on both sides of the rectum to a point well above the growth, but found it impossible to pull the tumour down so as safely to excise it. This difficulty was overcome by clamping the meso-rectum by a long curved pair of forceps, and dividing it close to the clamped forceps with curved scissors. The intestine to the extent of eight inches, composed of rectum and sigmoid flexure, then came down readily into the wound; the bowel below and above the tumour was occluded by long-bladed forceps, and the diseased rectum was excised, including  $\frac{1}{2}$ -inch of healthy intestine on either end. My intention was to unite the divided ends of the bowel, after excision of the growth, with a double row of suture, but at this stage of the operation my patient became so collapsed that we had to terminate the procedure as rapidly as possible; the upper end of the intestine was rapidly sewn into the left-hand corner of the wound, and the anal end was invaginated and sewn through and through. The forceps clamping the meso-rectum were left *in situ*, the cavity of the wound packed evenly with iodoform gauze, the end of the gauze being brought out at the right-hand corner of the wound; a few silver wire sutures served to retain the replaced flap in position; a voluminous antiseptic dressing was applied, and the patient placed in bed

badly collapsed. By the application of heat and the exhibition of stimulants he soon rallied. The following day he was quite cheerful, and had very little pain; the dressings, which were soaked, were changed; the forceps clamping the meso-rectum were removed at the same time, and no hemorrhage followed. The iodoform gauze packing was left undisturbed, and external dressings reapplied. On the third day, as the temperature had risen to  $102.6^{\circ}$  F., and the pulse was 130, I changed the dressings and removed about one-half of the iodoform packing; it was in a perfectly aseptic condition. On the following day, his temperature being still high and his pulse rapid, I again dressed the wound and removed the remainder of the iodoform packing; the whole of it was thoroughly sweet and the condition of the wound aseptic throughout. I repacked the wound to a slight extent with plain aseptic gauze, and applied the usual antiseptic dressing; from this time his temperature went down rapidly and permanently, and he made an excellent and rapid recovery. He was out of bed on August 18th. The wound healed entirely without the formation of pus. At each dressing the orifice of the bowel, which was sewn into the wound, was separately plugged and covered with some iodoform gauze. Weight of growth removed, four ounces; duration of operation, one hour and twenty-five minutes. At present date, four months after the operation, the patient enjoys his life, and has no symptoms of recurrence.

*Remarks.*—This is the first, and so far the only, case I have operated on by this method. The general rule in surgery, “that only such cases of cancer of the rectum should be operated on as are easily accessible and freely movable,” no longer holds good, as by the above method the whole rectum can be removed. Cases hitherto treated by colotomy, the disease itself remaining untouched, are by this method rendered amenable to radical operation. In reviewing the steps of the operation, the following points appear to me of interest.

The preliminary performance of colotomy I consider a most important step. It allows the rectum to be rendered comparatively aseptic, maintains it, if the colotomy is properly done, empty, and minimises or excludes all chances of fouling the operation wound and peritoneal cavity by fæcal matter both during the performance of the operation and after its completion. The hemorrhage was easily arrested; the greatest bleeding occurred after the sacral flap was turned down; one or two vessels requiring ligature in the wall of the anal end of the rectum; no bleeding took place from the bowel where it was divided above the tumour. I imagine the ligature of the vessels of the meso-rectum would be well nigh impossible, as the mesentery lies out of sight and out of reach to anything like



easy manipulation ; all hemorrhage was prevented by the use of clamp forceps as detailed. It is stated in what brief notes I have had access to of this operation that, after the sacral flap is turned down and the rectum separated from the surrounding structures, the bowel is easily pulled down. I have done this operation on the cadaver a number of times, and in no case have I found this possible except to a very limited extent. The removal of a tumour involving the upper part of the rectum and subsequent suture of the divided gut can only be possible in the case of small growths without division of the meso-rectum. In the case reported above, from the size of the growth I should not have been able to remove the diseased part of the intestine had I not succeeded in clamping and dividing the mesentery. The moment this was done, the whole rectum and a great part of the sigmoid flexure came down with a run.

I have seen no mention of this procedure anywhere ; it is a detail of the utmost importance, as by this means the whole of this part of the intestine can be removed if necessary. The meso-rectum can be safely divided by introducing the left hand into the pelvis, passing the forefinger and thumb over the bowel until their tips meet behind it ; the meso-rectum is then put on the stretch by pulling the bowel forwards, and can be secured by a pair of long-bladed clamp forceps guided by the finger and thumb already in position. Its division is then effected by scissors. Some time was lost in attempting to strip the rectum out of its peritoneal investment ; this, I should say, can rarely be done ; the tissues will generally be infiltrated and matted together ; in future I should cut at once into the peritoneal cavity, and proceed with the remaining steps of the operation. The ideal operation, as performed by Schede, of Hamburg, would include suturing the divided peritoneum and the union of the divided ends of the gut. In the case reported the patient's condition did not allow time for either procedure. Where the peritoneum is not sutured, stuffing the wound cavity with iodoform or other aseptic gauze is an excellent means of drainage, and of getting the peritoneal cavity walled off by deposit of lymph on its interior surface : the gauze was withdrawn gradually, so as to avoid putting too great a strain suddenly on the recently-formed lymph. The high temperature and rapid pulse which occurred while the wound was plugged with iodoform gauze were probably due to the absorption of iodoform ; I have had the same symptoms before and since accompanying wounds aseptic in character, where I have been obliged to use iodoform gauze in large quantity. Amongst the many and obvious advantages of this method of operation are—first, that the sphincters are left uncut ; secondly, that hæmostasis can be carried out exactly and readily, the part

being under the surgeon's eye ; thirdly, that the drainage of the wound cavity is naturally perfect. Lastly and chiefly, that by this method cases hitherto regarded as beyond the reach of the surgeon and his art, and relegated by him to their fate, can be approached with confidence and dealt with radically. It opens a new field to the surgeon for removal of malignant growths of the rectum, also for the removal of malignant disease of the uterus and appendages.—*British Medical Journal*, February 13, 1892, p. 330.

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## ORGANS OF URINE AND GENERATION.

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### 62.—ON THE USE OF DIURETIN IN GENITO-URINARY SURGERY.

By E. L. KEYES, M.D., New York.

Outside of the usual complications liable to attend any cutting operation, the surgeon who deals with the genito-urinary tract has to contemplate, and if possible guard against, that other mysterious concomitant of operations upon the urethra and bladder, known under various names, and often called "urinary fever."

In June last I went to a city near New York to take a large stone from the bladder of an old gentleman, and at the same time to remove an out-standing third lobe. His case was desperate. He had suffered long, and for four years he had been an invalid, spending most of the last year in bed, taking opium suppositories, and passing his catheter hourly sometimes, and again at longer intervals. He could not urinate at all without the catheter. I cut this patient above the pubes, and took out a stone as large as an egg and a prostatic third lobe as large as the last joint of the thumb. The bladder was thin-walled, corrugated, trabeculated, and sacculated. I put my finger into holes on each side which seemed like ureteral orifices, but did not stop to investigate closely. They could not have been orifices of the ureters, because these are closed even when the ducts are enormously dilated. His urine had been like gruel, full of albumin and all sorts of detritus. There was no question of there being dilated ureters, pyelitis, and more or less interstitial nephritis on both sides. The operation was done simply because it had to be done in compassion for the old man's sufferings. The outlook was desperate.

I thought, then, of trying diuretin, and telephoned for it before the patient recovered from his anæsthetic, ordering



ten grains to be given at once, and frequently repeated. This patient got well. He had considerable nausea from morphine given hypodermatically, but no chill and no suppression, and his physician, Dr. Tieste, writes, on September 1st, that "he is able to hold his water from five to seven hours, and to pass it without a catheter, a thing that he has been unable to do for three years."

Since that time I have used diuretin in every case of urethral or bladder operation that has fallen under my hands. I give 60 grains of salol per day for forty-eight hours before operating, and commence diuretin on the day of the operation, giving it also in doses of 10 grains every four hours for forty-eight hours. I, of course, irrigate the bladder and urethra; I did this before, but my results have been better since using the diuretin. If this is a coincidence, time will demonstrate it; if not, it is proper that others should have an opportunity to experiment, and either verify diuretin as an adjuvant to urethral and bladder surgery, or prove its lack of value. I do not here assert that it has great value, or any, but I do state that it does no harm, and that since commencing to employ it, now less than three months, I have used it in every major operation that I have performed, and my assistant, Dr. Fuller, has used it twice, and in no instance has there been any urinary fever proper—that is, there never has been a chill or a suppression. The cases cover all ages from eighteen to eighty, with desperate complications, such as pyelitis, urine loaded with albumin and casts, diabetes, etc. Patients have had shock, fever sometimes, and various complications, but never chill or suppression. The number operated on is thirteen; not large, it is true, but it was in the summer season, and all were private patients. The time is too short for generalisation, but when it is remembered that the cases were: Supra-pubic prostatectomy, 6; supra-pubic lithotomy (diabetes), 1; perineal section, 3; perineal section without guide, 2; litholapaxy, 1; mostly in old men with damaged kidneys, all of whom recovered without chill or any tendency to suppression, it is fair to imagine that the means used had something to do with it, and the diuretin is the only new drug. In three of the cases there was profound shock after the chloroform (which I now always use), but the kidneys acted all along.

Was it the diuretin that did the service? I do not know. Time must decide.

Diuretin being a new substance, I may briefly say that it is theobromine and salicylate of soda (a combination sometimes ascribed to Gram, of Copenhagen), a white powder of sweetish, saline, alkaline taste. E. Merck, of Darmstadt, first manufactured it at the instance of Prof. Riegel, of Giessen University,

some time prior to 1890. It is soluble in hot water and in warm diluted alcohol. The same or a similar salt was first brought out in the *Apotheke Zeitung*, December 14, 1889, under the name of diuretin. This is believed to contain 50 per cent. of theobromine, and is soluble with heat in half its weight of water, remaining in solution on cooling. Theobromine is the alkaloid obtained from the seeds of theobroma cacao, and is also found in the kola nut. It is related to caffeine, the latter being the methyl derivative of theobromine.

Diuretin appears to be a free diuretic, seemingly pretty constant in its action. It does not irritate the stomach, bowels, or nerves, and does not depress a weak heart. Reports about it therapeutically vary, as is natural in the case of all new drugs, but it seems safe, and worthy of trial in order to see what it will do. The dose is 10 to 15 grains often repeated, to 90 or even 120 grains a day, given in powder or in pill form—preferably gelatin-coated pill, as the powder deteriorates on exposure. If it will prevent, or even moderate, urinary fever, it is a valuable drug. I hope to report a more extended experience with it next year.—*Medical News*, October 31, 1891, p. 505.

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### 63.—GONORRHOÆAL RHEUMATISM: ITS EFFECTS AND TREATMENT.

By BERNARD E. BROADHURST, F.R.C.S.

It is certain that gonorrhœal, or urethral rheumatism, is in the first instance invariably preceded by a specific discharge. Subsequent attacks may or may not be preceded by a discharge: but the first attack is always preceded by a specific urethral discharge. A second attack of articular inflammation may be caused by the use of the bougie or by an act of coition, or by any other form of irritation of the urethral canal.

Exposure to wet and cold weather, the gonorrhœal discharge being present or about to appear, tends to induce this form of articular inflammation. Considerable effusion into the affected joints takes place, accompanied with great pain; but, although tension may be very great, suppuration never occurs. Many joints usually become inflamed simultaneously, and all may recover perfectly and without leaving behind any ill results. Every fresh attack of inflammation takes more effect than the preceding one, and seems to be more virulent in its character; and it is probable that although on two occasions, perhaps, the joints may resume their normal appearance and their functions, a third attack may leave the patient lamed. It is common that all the joints shall recover well except one, but that one remains stiff and immovable.



When pain is first felt and swelling appears, the affected joints should be wrapped in lint covered with mercurial ointment, and they should be bandaged as firmly as can easily be borne, and the patient should be brought rapidly under the influence of mercury, preferably by inunction. With such treatment, pain and swelling quickly disappear, and the joints resume their normal condition. At this stage passive motion should be instituted, to ascertain that the motion of any affected joint is free ; for lymph will have been deposited on the synovial membranes, through which adhesions form. These bands soon become firm, and resist any attempt that a patient himself can make to move the joint.

The mercurial treatment to which I have referred, if resorted to in the outset of the inflammatory stage, never fails : swelling subsides as the mercury takes effect.

The large joints are those which are most frequently affected, namely, the knee, the hip, the elbow, and the shoulder. Every joint may, however, become inflamed, and ankylosis may result, not in one joint only, but in every articulation in the body. Such a case I have had under my own care. I saw this patient with Dr. Lever. He had had three attacks of gonorrhœal rheumatism, each of which was preceded by a specific urethral discharge. He recovered the use of his limbs after each attack, but each occasion required longer time for recovery than the preceding ; and indeed, the third attack left a certain amount of stiffness which was never entirely removed. This, however, appeared to be muscular rather than articular, and it was only felt after a long rest in one position. At length he married, and after marriage he was seized with violent inflammation. Every articulation was inflamed and became ankylosed. At this time I saw him. He could neither move his head nor any limb, nor could he masticate. He lay without power of motion, like a log.

When, after inflammation had ceased, and passive motion has not been employed, adhesions remain and become firm, force is needed to restore mobility. If this force is employed in extending the limb, dislocation may be produced, or at least some displacement of the articular surfaces may occur. Force should therefore always be used in the direction of flexion. When force is thus employed, no injury can accrue to any structure. And, if this operation has been long delayed, so that contraction of the flexor muscles cannot otherwise be overcome, their tendons should be divided. But before force is applied to rupture adhesions, the punctured wounds should be allowed to heal ; for otherwise they may readily be extended into lacerated wounds from three to four inches in length.

In this manner mobility is very quickly regained. The operation is entirely successful, and it ranks among the most satisfactory in the whole range of surgery. Thus I operated with Mr. Henry Lee on an elbow. Disease had been contracted in China, and several joints became inflamed. All, however, recovered except the elbow. This joint became perfectly stiff and immovable. Under chloroform the adhesions yielded instantly and completely, and mobility was restored. In the course of one month he returned to China, having recovered the entire use of the joint. I met him accidentally three years later, and inquiring as to his elbow, he answered, "Really, I have forgotten which was the stiff elbow, both are alike," at the same time rapidly flexing and extending the forearms.

Again, I saw, with Dr. William Wood, a case in which disease had been contracted in Ceylon. In this instance the patient slept in the open air, and continued sleeping until after sunset, when he awoke cold and in great pain. He was carried with difficulty to his own room, for the hips, knees, ankles, and shoulder-joints were much swollen and dreadfully tender. The hip became so much swollen that it was supposed suppuration would occur. This joint became stiff and immovable; but all the others recovered perfectly. Sir Benjamin Brodie advised that he should arrange to leave the army, for he would not be able to follow his profession, he could neither ride nor walk, and "he would take his stiff joint with him to the grave." From Sir Benjamin's house he came to me, and I assured him that mobility could be restored. With very slight force the adhesions yielded and gave way gradually, so that the thigh, which had been fully extended, was flexed upon the pelvis. He suffered no pain, and slept well at night without an opiate. Passive motion was used, and in some few days he walked about his room, and within a fortnight he walked upwards of two miles without injury. In two months I presented him at the Royal Medical and Chirurgical Society, where he was examined by many, and especially by Mr. Coulson, who affirmed that he could not have believed that the hip joint had ever been diseased, for the head of the femur moved perfectly in every direction, unless he had heard it from so many credible witnesses. Speaking immediately after the paper was read, in which this case was detailed, and before he had examined the patient or knew that he was present, or that he was an officer in the Queen's service, Mr. Coulson affirmed that the case was impossible—to the great astonishment and amusement of my patient, who was sitting at my side. Immediately afterwards he rejoined his regiment, and writing to me some few months later he said, "I walk occasionally twelve and thirteen miles a



day." And again, later, he wrote, "I can sit in the saddle all day without pain."

Again I operated, with Sir Prescott Hewitt, on the hip, where disease had been contracted in Russia ; and also on another from India ; and also, with Sir William Fergusson, on both hips and both knees in a case from Bermuda ; as well as in other numberless cases where mobility was perfectly restored.

Ten years ago I had operated on upwards of one thousand cases of fibrous ankylosis, and in no instance, either before that time or since, have I known of any accident, whether displacement, or fracture, or inflammation, or injury of whatever kind. —*The Medical Press and Circular*, March 16, 1892, p. 257.

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#### 64.—ON MOVABLE KIDNEY AND HYDRONEPHROSIS.

By R. CLEMENT LUCAS, F.R.C.S., Surgeon to  
Guy's Hospital.

Persons suffering from movable kidney are liable to sudden severe attacks of pain, accompanied by nausea, vomiting, and collapse. At the same time, the tumour is noticed to increase considerably in size, and to become tender, whilst the urine becomes high-coloured and scanty. Headache and dimness of sight may accompany the attack, which may last a few hours, a day or two, or extend over a fortnight. Symptoms such as these are said to indicate strangulation or torsion of the kidney. The increase in size and tenderness of the tumour may suggest a localised peritonitis, but its subsidence without any marked fever is opposed to this explanation. The diminution of the tumour and relief of symptoms are noticed to be coincident with a free discharge of urine of low specific gravity. The explanation of these symptoms usually given is that the kidney has moved upon its transverse axis in such a manner as to cause a twist of its pedicle, and consequent pressure on its vessels and duct. The vein suffering more from pressure than the artery, a turgescence of the organ is brought about, and the ureter being at the same time bent and pressed upon, the pelvis of the kidney becomes distended with urine. In this way the increase in the tumour is accounted for. The nausea, pain, and vomiting are due in part to the disturbance of the renal plexus and in part to the sudden blocking up of the renal excretion.

Should this dislocation of the kidney occur frequently, or should its abnormal position become continuous, it is evident that the kidney structure must suffer from the pressure of the pent-up urine in the pelvis and calyces, and thus gradually a condition of hydronephrosis may be produced.

Hitherto the treatment of movable kidney has been undertaken to relieve the patient from the pain and discomfort occasioned by its displacement; but during the last ten or twelve years, in which I have had somewhat exceptional experience in renal surgery, I have gradually arrived at the conclusion that we must regard this mobility in a much more serious light, and must treat it boldly to prevent the organ from bringing about its own destruction. It is to insist upon this view of movable kidney that I will now refer to some recent cases which prove how this hydronephrotic destruction is brought about as a direct result of the movement. One of these cases, in which the hydronephrosis was undoubtedly caused by the displacement, appears to show that the destruction of the kidney in this way may go on without any severe attacks of pain. The attacks of so-called strangulation may be then regarded as in some respects salutary, inasmuch as they draw attention to a condition which sometimes goes on insidiously towards destruction of the kidney.

*Case 1. Movable Kidney: Gradual Development of Hydronephrosis.*—A lady in the middle period of life consulted me first some four or five years ago on account of a tumour on her right side. Her attention was first drawn to the swelling by pain, which was excited on one occasion by lifting. The tumour was firm, and about the size of a normal kidney. It appeared to drop over in the standing position, and could be replaced by pressure and pushed up under the ribs. There was nothing abnormal in the urine, nor was there any connection between the tumour and the pelvic organs. She suffered from attacks of pain, especially during her menstrual periods. This patient refused to undergo an operation, and the kidney has gradually developed into a hydronephrosis, which becomes distended at intervals and then discharges itself.

*Case 2. Movable Kidney: Colic: Commencing Dilatation: Nephrorrhaphy: Cure.*—The following case is one of movable kidney on the right side in a young athlete, aged 22, upon whom I operated with a view of fixing the organ, and found at the operation that the pelvis of the kidney and the calyces were already dilated as the result of the mobility.

On Jubilee Day, 1887, he first suffered from a paroxysmal attack of pain in the right hypochondriac region, and from that day at frequent intervals since. It was at first thought by those whom he consulted that the attacks were due to biliary colic, and the tumour, which was subsequently discovered, and which disappeared at intervals, was believed to be a distended gall bladder. He, however, had no jaundice. For these attacks in 1890 he consulted Sir A. Clark, and in December of that year he saw Sir Spencer Wells, who diagnosed a movable kidney, and recommended a belt. No relief was afforded by this



treatment, and the attacks, if anything, became more severe. He used to get an attack about once a week, and anything he did out of the common would bring on an attack. The first attack he attributes to the pushing about in the crowd on Jubilee Day. He consulted me first on February 17th, 1891. The last attack had lasted about ten hours, and was unusually severe. An attack came on with a sickening, aching pain in the right hypochondrium, and extended from this region down to the groin. The urine throughout had been perfectly clear.

The tumour was first clearly felt by a doctor about a year after the first attack of pain, but the patient was under the impression that it was there before. It was best felt when standing; could be brought into prominence by a voluntary action of the diaphragm, and by pressure could be sent back into its bed with a sudden jerk. When the tumour was evident it was situated to the right of the umbilicus, and had a rounded end like a normal kidney. Its upper surface was also fairly well defined, and it could be prevented from returning by thrusting the hand between it and the liver. There was dulness on percussion continuous with that of the liver, so that it had probably come forward between the colon and the liver. I had no doubt whatever as to the tumour being kidney, and advised nephrorrhaphy. The operation was performed on March 1st, 1891. An incision about four inches in length was made parallel with the last rib, and three-quarters of an inch below it. The muscles were divided in succession, and the perinephric fat reached with very little bleeding. The kidney was found freely movable within the adipose layer. Some of the fat around the kidney was cut away, and the fibrous capsule of the organ exposed. It was now seen that the pelvis of the organ was dilated, but the ureter below was quite normal in size. A thorough examination was made for stone, but none was found. The finger could be invaginated in all directions into dilated calyces, showing the damage which had resulted to the kidney through its mobility.

The kidney was now raised till its lower margin was on the level with the upper edge of the incision through the muscles. Four stout chromicised catgut sutures were used to secure the lower part of the kidney to the edges of the muscles and tendons; two of these were passed twice through the muscles and through the fibrous capsule of the kidney, and the other two transfixed the edge of the muscles and the convex lower end of the kidney. It was found that in this way the organ was rendered quite secure in its position. Three deep wire sutures were passed through the skin and muscles to bring together the edges of the wound, and two superficial ones were used through the skin alone. A drainage-tube was

inserted at the independent angle, and carbolised dressing employed. There was nothing to note in the course towards recovery. The wound ran an aseptic course without fever, and he was quite convalescent on April 9th. Subsequently I received a note from him, dated June 5th, in which he says : "I cannot, by any formula of words, express my deep gratitude to you ; all I can say is that beforehand life was a misery, and now, thanks to your wonderful cure, I am able to enjoy it." Allowing for the exaggerated expressions which gratitude is apt to excite, I think we may conclude that, in this case, although hydronephrosis had commenced, the effect of stitching up the kidney has completely relieved the pain, and in all probability has saved the kidney from further destruction.

*Case 3. Movable Kidney: Secondary Hydronephrosis: Nephrectomy.*—The next case is one of fully developed hydronephrosis secondary to movable kidney. The kidney had been destroyed by the backward pressure of the pent-up secretion, and I removed the shell remnant.

The patient, a woman about thirty years of age, had been under the care of Mr. Travers and Mr. Ticehurst, of St. Leonards, and was sent up to see me on November 21st, 1890. In February, 1890, she first noticed a swelling on the left side of her abdomen. It caused her little pain, but inconvenience from its increasing size. There was no history of the tumour discharging itself and re-collecting, but it slowly and gradually increased in size. Mr. Ticehurst met Mr. Travers in consultation, and they decided it was a case of hydronephrosis. Nothing abnormal had been noticed in the urine.

When admitted into Guy's Hospital in November last there was a large tumour on the left side of the abdomen, extending from a short distance below the ribs to the anterior superior spine of the ilium ; laterally it extended to a little to the right of the umbilicus, and it caused a bulging of the loin posteriorly. Distinct fluctuation could be felt between the front and back of the abdomen. In spite of its large size the tumour was freely movable. It was dull on percussion except at the upper part just beneath the ribs.

On November 25th, 1890, I aspirated the tumour and drew off 24 ounces of fluid, with a specific gravity of 1012, containing 1·5 per cent. of urea. The tumour quickly refilled, and on December 9th, with the assistance of Mr. Travers and Mr. Ticehurst, I proceeded to remove the kidney. An incision, four inches in length, was made below the last rib, and the muscles divided till the posterior surface of the kidney was reached ; it was then tapped, and 18 ounces of fluid were withdrawn. The shrunken organ was then drawn out of the wound. The ureter was found below the level of the kidney to be normal ; it was



divided after ligature. The vessels were secured separately and the organ removed. It consisted of dilated intercommunicating calyces and diverticula, with scarcely any secreting structure remaining. The orifice of the ureter was found to be patent, and no cause existed in the interior of the kidney to account for the hydronephrosis. The ureter below the level of the kidney was undilated, showing that the obstruction did not exist at a lower point. The mobility of the kidney and the pressure of its lower end upon the ureter alone remained to account for the hydronephrotic destruction. The wound ran an aseptic course without fever, and was completely healed on January 2nd, 1891; the patient left for the country quite well and feeling strong two days later.

*Case 4. Movable Kidney: Secondary Hydronephrosis: Nephrorrhaphy.*—The fourth case is one of hydronephrosis due to movable kidney in which the destruction of the organ, though considerable, had not so far advanced as to render it useless. Finding this to be the case, I made use of my former experience, and secured the organ in its proper position, thus saving the kidney, and curing the attacks of distension from which she had previously suffered.

A married woman, aged twenty-nine, mother of three healthy children, was first admitted into Guy's Hospital under my care on April 17th of this year. After her last confinement in January, 1890, she had never felt well. Influenza and pneumonia of the right lung followed the confinement, and since that time she has been troubled with pain in the left loin at frequent intervals; and she had noticed that a swelling on the left side of her abdomen rose up during the pain and subsided when the pain ceased. The subsidence of the swelling was accompanied by an increased flow of urine. She attended as an out-patient for some time, during which the swelling was noticed to rise and fall more than once. The attacks were brought on by any unusual exertion, and she was seldom a fortnight free from pain.

At the time of her admission the swelling was distinct and easily movable within the abdomen, but it quickly subsided, possibly as the result of the manipulation to which she was subjected, so she was discharged three days later. She was readmitted on May 20th, when the tumour was again very distinct, filling up the left loin and left side of abdomen, fluctuating, and freely movable. She had suffered a great deal of pain since her last admission, chiefly in the back of the left loin.

On May 23rd ether was administered, and I proceeded to expose the kidney by an incision about five inches in length below and parallel with the last rib. Since her admission the

kidney had again partially emptied itself, so that when it was exposed it was not much distended. The pelvis of the kidney was now thoroughly explored for stone, but no evidence of stone was found. The ureter was next traced down from the pelvis, and it was found to narrow suddenly to its normal size opposite the lower end of the kidney: To make a more thorough examination of the organ the kidney was slipped out through the wound, its lengthened pedicle allowing this to be done with ease. We were thus able to see exactly the amount of damage done to the organ, and determine how much secreting structure remained. Although the pelvis of the kidney could be invaginated into hollow cavities in all directions, it was evident that there was still a considerable amount of cortical substance left undamaged. I accordingly resolved to replace the kidney and stitch it into its normal position. Five chromicised gut sutures were used to attach the kidney to the muscles. The wound was then closed by wire sutures, and a drainage-tube inserted at the posterior angle. The temperature after the operation at no time rose so high as  $100^{\circ}$ , and the patient made an uninterrupted recovery, leaving the hospital with the wound healed just a month after the operation. Since then she has been free from pain, and there has been no evidence of any reaccumulation of fluid in the kidney.

I think we may claim in Case 4 to have made a new departure in the treatment of hydronephrosis when due to movable kidney, by which the malady is arrested, the patient relieved from pain, and the organ saved for future service.—*British Medical Journal*, December 26, 1891, p. 1344.

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#### 65.—ON PERINEAL DRAINAGE IN INVETERATE STRICTURE OF THE PENILE URETHRA.

By C. MANSELL MOULLIN, F.R.C.S., Surgeon to the London Hospital.

It is a mistake to suppose that strictures of the penile part of the urethra are invariably, or even frequently, the result of cicatrisation. Occasionally the mucous lining is destroyed by injury for more or less of its circumference, or eaten through by ulceration; but nearly always, as Berkeley Hill and others have shown, if the urethra is laid open, the membrane can be dissected off, thinned and discoloured, it is true, but intact, and capable of being unfolded its whole width. The first beginning of a deep-seated stricture is usually either a granular patch on the surface or an inflammatory deposit in the substance of the mucous membrane—sometimes the one, sometimes the other;



and it steadily increases little by little as fresh lymph is poured out around and beneath it, involving first the urethral and then the peri-urethral tissues, until at length it forms a definite obstruction. The problem in the treatment of stricture is how to ensure the absorption of this deposit without causing the addition of more.

Temporary relief may be obtained by division or dilatation ; and occasionally, if the lymph is still soft and cellular, so that its absorption can be effected without loss of time, this leads to permanent cure. But such good fortune is exceptional ; nearly always a hardened patch or an open ring is left in the substance of the wall, less elastic than the tissues near, and unable to yield smoothly and evenly when the folds of the mucous membrane are straightened out by the passage of the urine. There may not be sufficient obstruction to cause any difficulty, but there is enough to keep up irritation and make the stricture relapse. Each act of micturition strains and pulls upon the tender tissues around ; fresh lymph is thrown out, and organisation begins and contraction is well established before the original induration has had time to disappear. Strictures relapse and recontract, not because they are formed of scar tissue (with a few exceptions), but because the remains of the old and hard inflammatory deposit act like the little thickened patches, or the papillary granulations that are left after gonorrhœa, and begin again the old vicious circle. What is wanted is something that will hasten the fatty degeneration of the old exudation and help the tissues to remove it before the irritation of its presence can lead to the formation of any more, or cause any fresh trouble.

Unhappily, the means at our disposal for hastening the disappearance of chronic inflammatory exudation from other parts of the body are useless, or worse than useless, when the urethra is involved. Counter irritation, for example, is impossible. Pressure cannot be employed. If a tight-fitting catheter is introduced and left, the stricture tissue softens, it is true, and appears to melt away in the same way and for the same reason that dense fasciæ and ligaments become softened when a joint is acutely inflamed ; but the effect is quite as transient ; and clinical experience has proved that strictures treated by rapid continuous dilatation alone are usually the first to relapse. The only method is to free the tissues from every source of irritation, and secure for them a long period of complete physiological rest. If this can be done the hardened lymph will slowly disappear, and the walls of the urethra become soft and yielding again. In other parts of the body the absorption of the products of chronic inflammation begins as soon as the irritation that gave rise to it ceases to act, and if

only strictures can be placed under the same conditions the same result will follow ; at least, in those of them in which there has been no destruction of the mucous membrane. The curability of stricture has been denied. I have already shown that it is by no means uncommon after external urethrotomy, and I am prepared to go further, and assert that not only is this possible, but that, under certain circumstances, strictures of the penile part of the urethra (or at least some of them) are capable of undergoing a process of spontaneous absorption.

The occasional success that attends extreme dilatation after Otis's plan, and after free internal urethrotomy, is probably to be explained in this way : thorough stretching or division of the stricture places the part at rest for a sufficient length of time, and the inflammatory products in the wall undergo fatty degeneration and absorption before they can give rise to sufficient obstruction or irritation to lead to the production of any more ; but the result is very uncertain, even in comparatively recent instances. In older ones, especially in those in which there is more than one stricture, there is only one plan by which sufficient rest can be ensured, and that is by opening the urethra behind, in the perineum, and allowing the whole of the urine to escape without coming near the affected part. It is true the measure is a severe one, giving rise to considerable inconvenience for some length of time, but it is not intended to make use of it unless the conditions are severe.

My attention was first drawn to this by noticing the way in which strictures of the urethra sometimes disappear spontaneously in cases of extravasation of urine. In August, 1887, a patient suffering from this complication in an extreme form, was admitted into the London Hospital under my care. The history, so far as could be ascertained, was of the ordinary character—several attacks of gonorrhœa, increasing difficulty of micturition, complete retention, and then suddenly, a week before admission, rupture and extravasation. The patient's condition was deplorable : the putrid fluid had spread far above the umbilicus, back into the lumbar region, and even into the ischio-rectal fossæ, Colles' fascia having given way by sloughing. The pulse was very feeble, and it seemed doubtful if the patient could survive the night. However an anæsthetic was given, the stricture examined, and found to be impassable, at any rate at the time. Free incisions were made wherever the fluid had penetrated, the first in the middle line of the perineum, with the view of opening up the membranous portion of the urethra and giving free exit to the contents of the bladder. Six weeks later when the patient had rallied and the incisions were closing in, it was thought that the time had come to examine the condition of



the urethra. The whole of the urine still passed through the perineal opening, and there was no sign that the obstruction had yielded in any way. However, on trying a small black bougie (No. 2, English) it slipped through almost at the first attempt, and by the end of a week, passing a catheter every day, all obstruction had disappeared and the walls of the urethra were as soft and flexible at the seat of the stricture as they were elsewhere.

I admit the altered behaviour of the stricture may be accounted for, to some extent, by the subsidence of spasm and congestion. Before the rupture occurred the mucus membrane must have been subjected to an extreme degree of pressure and irritation. After the operation, for six weeks it was absolutely at rest. But I do not think, in such a case as this, spasm and congestion are factors of much moment. The real change was in the dense gristly mass that surrounded the urethra and filled up all the interstices in and around the submucus tissue. Left absolutely quiet for six weeks, without anything to irritate it, it had gradually undergone a process of degeneration and been absorbed, so that when at length a bougie was passed the narrow part of the urethra could be unfolded and opened out at once. Whether the cure was permanent or not I am unhappily not in a position to prove ; but it may be admitted on *a priori* grounds that even if the chance of this at any time is not very great, it is certainly greatest if the stricture tissue is thoroughly removed by fatty degeneration and absorption, not merely stretched and left.

Such a measure as this is, as I have already said, a severe one for ordinary cases, although, if the patient will spare the time and put up with the inconvenience, he will, I believe, be amply repaid in the future ; but it is not uncommon to meet with instances in which a perineal incision is rendered advisable, and even necessary, by the presence of complications, and in which it can be made to assist in the absorption of the indurated mass. All that is required is that it should be kept open for a sufficient length of time. In one case, for example, that was under my care in 1890 there was a number of false passages spreading out in all directions, so that it was scarcely possible to find the orifice ; and the urethra behind was so dilated that when it was incised a long cul-de-sac was found running in the corpus spongiosum, far beyond the stricture itself, almost into the glans. In another the median operation was performed for the purpose of extracting the broken end of a bougie. In a third the bladder was drained for severe cystitis and strangury ; and in a fourth the whole length of the penile part of the urethra was affected more or less, and there was already the beginning of a peri-urethral abscess.

In two of these internal urethrotomy was performed at the same time ; in the others the stricture was simply left alone, and all the urine allowed to escape through the perineal wound. The length of time this was kept open varied from a month to six weeks, but I regard the longer period as usually necessary. In no case did any fistula persist—the difficulty is rather in the opposite direction. It is not easy without maintaining a drainage-tube, or occasionally employing dilatation, to prevent the opening contracting prematurely. In all the stricture tissue disappeared of itself, so far as could be ascertained with a bulbous sound. It was not stretched or dilated ; it was merely left alone, and when a catheter was passed it apparently did nothing more than open out again the folds of the mucous membrane, which were still collapsed owing to the way in which they had been so long pressed together by the inflammatory exudation.—*The Lancet*, January 16, 1892, p. 132.

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#### 66.—ON THE ENLARGED PROSTATE AND ITS OPERATIVE RELIEF.

By E. L. KEYES, M.D., New York.

There is no ancient history of prostatotomy or prostatectomy. The very names are of modern coinage, and the acts they represent have only become justifiable surgical procedures within the last few years. The only notable recent literary productions that I need refer to are the several articles in the London weekly medical journals, which have appeared from time to time, detailing cases and operative methods at the hands of A. F. McGill, of Leeds, whose recent death we all deplore, and to whose investigations and successful operations modern prostatectomy owes its first serious real impetus in England and in this country ; to the thorough pathological study of Watson, of Boston, whose theoretical conclusions, however, have since been modified by practical experience, and to the admirable *résumé* of the whole subject, a year ago, at the hands of Belfield, of Chicago, who succeeded in collecting a table of operations, at the hands of various surgeons at home and abroad, representing 133 cases, in 41 of which the prostate was attacked by the perineal route, and in the remainder by suprapubic incision. Lists of cases and single experiences are constantly appearing in the journals, sometimes containing valuable hints, but historically I think Belfield's essay covers the ground, and its appearance less than a year ago renders any new attempt in this direction at my hands a work of supererogation.



It need only be recalled briefly that, up to a few years ago, the prostate had no surgery except the surgery of emergency. Its abscesses were opened, its stones were removed, when detected; it was cut through when the bladder imperiously called for drainage; but this was about all.

Certain enthusiasts and visionary therapeutists, from time to time, then began to appear, advocating possible absorption of the enlarged prostate by the internal use of ergot or interstitial injections of ergotine, its shrinkage by electricity, electrolysis, electro-puncture, or, more notably, the internal electro-prostatotomy of Bottini, who still advocates and practises the method, claiming up to December, 1890, 57 cases with 2 deaths, 32 cases improved, 12 no benefit. This method is doubtless better than the blind internal median prostatectomy as accomplished by Mercier's *emport-pièce*, an operation which Gouley, of New York, has unsuccessfully attempted to reintroduce.

To-day prostatotomy and prostatectomy are accomplished surgical facts and splendid additions to our resources in that class of grave vesical disorders found so often in the best ranks of the community, late in life, in those who use their brains rather than their muscles and lead sedentary lives.

Yet the indications for these operations are not yet fixed, although Belfield's analysis of his tables, and McGill's generalisations, have advanced the decision.

The questions on which I shall, in this paper give my own impression and personal experience, are: 1. When is perineal prostatectomy to be preferred to the suprapubic operation? 2. What condition of prostatic or vesical disease, or both, justifies radical operation, and should it be done early or late? 3. How much of the prostate should be taken away?

Prostatotomy, as an adjunct to vesical drainage, has been so generally recognised as a proper concomitant of the latter operation that its consideration need not detain us; nor need we consider that new form of operation, lateral prostatectomy, performed by dissecting off the rectum from the prostate and peripherally slicing away its lateral lobes without opening either the urethra or bladder. This operation was suggested theoretically, after cadaveric research, by Dittel, last year; but aside from its manifest inability to cope with median prostatic overgrowth, it has been tried and found wanting this year by Küster, who reports three successful cases, stating that the operative manœuvre was not difficult, the patients were contented with the operative effect and could urinate at will, but that in each case a small urinary perineal fistula was left behind.

Three cases, in which I did the perineal operation, and another under my charge, in which, however, my assistant, Dr. Fuller,

operated, all recovered, and were successful in securing relief of pain and freedom of urination—in one voluntary urination until he died, several years later ; in another, where the catheter had been solely relied upon for four years, a cure of persistently recurring profuse hemorrhage ; in the third, and the right of way to voluntary urination in Dr. Fuller's case. My reasons for selecting the perineal route were, in the first two, non-acquaintance with the suprapubic method at the time. Had I the cases to-day I should attack both of them above the bone. In the third case the old gentleman was feeble, bled profusely, and I believed I had to do only with moderate peripheral hypertrophy and a granulating bleeding bar, from which I expected to take a V-shaped piece. I found a small projective lobe along with the bar, and removed the lobe by the V-shaped incision. In the fourth case there was perineal stricture as a complication, and the entire operation was done through the perineum.

The perineal operation, it seems to me in looking back over the cases, is suitable for election only under three circumstances: Great feebleness of the patient where the main indication is to get drainage and save life, and in which the prostate is not very hard, and not very large in its lateral lobes. Here drainage can be well borne, as a rule, through the perineum, and with a moderately long finger a projecting lobe, median or lateral, may be made out, unless the patient be fat and the perineum deep. When such lobe can be located with a Blizzard knife inserted flat upon the finger, a converging incision into the prostatic substance may be made in V-shape on each side of the offending projection, and then the latter may be wrenched away with long-curved forceps.

This was the method I adopted in two cases. In the other I simply twisted off a largish pedunculated third lobe. All the patients were thin and their bladders easily reached by the finger through the perineal incision.

I think in future, in any similar cases, I shall pass a double-woven silk ligature over the projections by means of these long-curved dressing-forceps with holes drilled near the tips of the blades, which I have had made for this purpose, but have thus far only used through an incision above the bone. I believe that with such an instrument, after a V-shaped incision had been made, including the offending lobe, or even a V-shaped piece of the bar, a double silk ligature could be placed and a small écraseur worked, with the forceps still holding the ligature in place, until the latter had embedded itself well into the prostatic tissues ; then the dressing-forceps and écraseur could be removed and the latter reapplied upon the same ligature,



held in place by their embedment; and I think that such a method of removal will be better than the rougher tearing out process that must otherwise be resorted to, in order to get the V-shaped segment away. Such tearing brings away sometimes too much tissue, as a long unnecessary strip of mucous membrane.

The V-shaped incision cannot be very accurately made at the bottom of the perineal wound. It cannot in any hands be accurately carried to a point, and some tearing is necessary.

I used this forceps to apply ligature in my third suprapubic case. It worked admirably, except that one of the silk strands gave way. The fibrous enclosing membrane, and I judge sometimes also the prostatic substance, is too hard to be cut through by silk, and I intend trying flexible steel wire through the perforated forceps upon my next case.

Deep prostates and very large, hard, lateral lobes, if the prostatic tissue be very dense, as it may well be, are not suitable sometimes even for simple drainage, prostatotomy, or much less prostatectomy by the perineal route. I have seen the tube partly collapsed or even squeezed out by the clasping action of two large-sized lateral lobes. These cases, I believe, should be approached—even if it be only for simple drainage, the patient's condition precluding more radical measures—they should be approached, I repeat, by the suprapubic and not the perineal route.

Out of my eight suprapubic cases two died, one a most promising case, the last a very grave one. After the second case all took diuretin freely, and salol, and in no case was there urinary fever, suppression, or pyelitis. Antiseptic irrigation and the usual precautions were always followed. In age the patients averaged sixty-four. The cases were not selected, except that all mild cases were refused operation and no desperate case was denied the chance, and of these several were so nearly dead when taken in hand that the operation seemed more like the short horn of a dilemma than an operation of choice or expediency. Suprapubic prostatectomy upon cases of this nature is of the first order in magnitude and gravity. In my opinion it far outranks nephrotomy, or even nephrectomy, in gravity. Even in the milder (seemingly milder) cases it is a grave resource, and I cannot agree with Belfield that it is proper to attack cases early, when their symptoms are not grave, with an operation the best statistics of which yield a mortality of  $13\frac{6}{10}$  per cent.—McGill's statistics, 24 cases, show a mortality of sixteen per cent.—when the well-known chances of life with use of the catheter are so high, and when cases are on record like the German who lived forty-five years urinating only through a

catheter, and Thompson's case of many thousands of insertions. I have had a case of twenty years' duration, and when the catheter is well borne an individual using it is not much worse off than a patient with hernia, who has to wear a truss. To suggest to such a patient an operation in his early career, with a mortality of at the very best one in eight, is like offering to kill a mosquito on a man's nose with a club. It is correct so far as the mosquito is concerned, but may be disastrous otherwise.

As to the power of restoring its contractibility to an atonied organ, my statistics lack value on account of the recent date of several of my operations.

Belfield's tables make, in 88 cases, 29, or one-third, restored to voluntary urination. Of these 26 were cases in which there was also calculus. In my eight suprapubic cases two died; in three of the others, although all are up and out, the wound is not quite healed; of the three remaining, one was insufficiently operated on and his atony remains, although urination is natural and voluntary up to that point. Another had eight ounces of residuum and now empties his bladder completely. The third also has entirely dispensed with the catheter and is functionally well.

Whether the others will lose their atony and empty their bladders entirely without catheter, I cannot now say. Of my three perineal cases, two emptied their bladders entirely after operation, one did not. Dr. Fuller's case still has the perineal wound.

An important lesson taught by my cases is the variety in texture of the enlarged prostate. McGill states, and all operators advise, that the curved scissors be used first and then the prostate be dug out with the finger. Acting on this I operated imperfectly on my first case. Scissors would not cut it, except to cut away the projecting lobe. I loosened around it, but could not possibly dig out a shred with the finger or any instrument I had, so hard and tough was the prostatic substance. This suggested to me the rongeur, and with it I had great comfort. I am having some instruments constructed to cut out pieces of varying size and width; until now I have nipped and twisted away pieces with an ordinary rongeur, or crushed them with its cutting edge and then removed them with curved scissors.

The outstanding lobes can be removed with the wire or double silk snare (except that the enclosing membrane is sometimes tough and breaks the silk), or with galvano-cautery or the tonsillotome, as Weir has suggested.

Salol and diuretin are the only medicines I use, with milk diet and Poland water. I have long since given up quinine in urethral and bladder surgery.



Hot-water irrigation sometimes stops hemorrhage, sometimes not. In the latter instance iodoform gauze may be stuffed down into the wound, or drawn like a big rosette into the urethro-vesical orifice upon a doubled silk thread passed through the urethra, and knotted over a pad at the meatus.

In final dressing, after some days, I find great advantage in keeping the patient dry from the use of the flat abdominal sponge constantly changed.

A point that remains is the extent of tissue that should be removed. Belfield cites the notable failures that have occurred in his own and other hands in accomplishing the result aimed at, namely, voluntary urination—and perhaps also cure of atony may be added as an aim—on account of the physical impossibility of getting out a hard obstructive growth or interstitial tumour not infrequently found growing in the floor of the prostatic sinus, and not to be reached by the finger, or, as he thinks, in any way except by a combined perineal incision. I believe that with the rongeur or a similar instrument this objection no longer holds. The main object of the operation is to cut away the bar and depress the bladder opening into the prostate, so that the bas-fond may drain, and there may be no longer a suppurating pouch left the shut-in prostatic sinus.

This lowering of the vesical outlet and picking out hard growths in the floor or sides of the prostatic sinus, can be perfectly well done with the rongeur, but not with any other instrument yet in use. If all such obstacles are thoroughly done away with, the bladder outlet properly lowered, and the gross posterior bulk of the lateral lobes removed, I think it better for chances of life, and as good for chances of urination, to leave the greater anterior part of the prostate unmolested; and this can all be done above the pubis without any extra perineal incision.

The quantity of tissue removed, however, does not seem to influence mortality. In my most rapidly fatal case a piece as big as a pea was removed. My greatest amount was 307 grains, and recovery was uninterrupted, although the case was desperate and one of long standing.

The three greatest amounts removed that I know of are four ounces by Buckston Brown, in a man aged eighty-seven, who recovered, and something over two ounces each in two cases by McGill, one of which died.

The only argument in favour of early operation is that the longer the patients have suffered the greater seems to be the mortality, as J. William White, of Philadelphia, has emphasized; but this was to be expected, as such patients are older and more broken in every respect.—*New York Medical Record*, October 31, 1891, p. 526.

AFFECTIONS OF THE SKIN, &c.

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## 67.—NOTES ON THE USE OF PILOCARPIN IN DERMATOLOGY.

By ROBERT M. SIMON, M.D., M.R.C.P., Physician to the General Hospital, Birmingham.

Though G. Simon, in 1879, and Pick, in 1880, published important papers on the Therapeutical Use of Pilocarpin in Diseases of the Skin, there has been no notice of its employment in England except in alopecia areata. In November, 1890, Dr. Klotz read a short paper on Pilocarpin in Dermatology, and, though his personal experience was limited, spoke in the highest terms of its value; but it is a matter for wonderment that the American Dermatological Association, before whom the paper was read, seemed to be unable to discuss it from lack of experience of the use of the drug.

There is abundant *a priori* reason for expecting benefit from its use in cases of great thickening of the skin, such as chronic eczema or scleroderma. Of the latter disease I have had no case; and though it does not fall to the lot of a physician to a general hospital to see many cases of very chronic eczema, I have tried pilocarpin in a few with the happiest results. It has been objected that it is a drug requiring heroism to administer and great care in its administration. If, as is indeed the case, this be so, it can be replied that we want to use pilocarpin only in cases in which other remedies are useless, and our patients often in very great distress.

S. P. came under my charge after having spent much time and money at Harrogate and elsewhere in trying to get relief. For fifteen months he had had eczema, and suffered acutely from the itching and distress dependent upon it. Nothing had given him much relief. He was ordered bran baths, and a lotion containing half an ounce of liquor carbonis detergens to a pint of lime water, while liquor arsenicalis, with small doses of iodide of potassium, was given internally. When I saw him his skin was enormously thickened and pigmented by the protracted inflammation, and I held out to him no hope of improvement until this thickening had been absorbed. To effect this, ointments containing salicylic acid were tried, but without much result, so on March 5th, 1891, he was admitted into the General Hospital to try subcutaneous injections of pilocarpin. The dose employed was at first one-eighth of a grain, and subsequently one-sixth of a grain, twice daily. There was very little sweating at first, but a good deal subsequently; otherwise,



beyond relief to the itching, no obvious results were noted; but gradually the skin got thinner and the irritation less. He had to leave the hospital on April 2nd for business reasons, but was readmitted on June 9th. The same treatment was adopted, and on July 8th he was again discharged as he felt so very much better. Two months ago I received a very grateful letter from him, saying that he was quite well and that his skin was normal. He had altogether 110 injections, but never suffered local or general discomfort therefrom.

Though the course of treatment may seem to have been very prolonged, and to be one requiring great patience, both on the part of the patient and the doctor, it must be remembered that we know no other remedy which could be expected to produce anything like so good, if indeed any, result.

Pachydermatous conditions are always serious, and though local thickenings may be fairly easily dealt with, a general diffuse chronic inflammation of the skin has hitherto been almost beyond the power of medicine to cure. The difficulties of applying keratolytic agents over a large surface are almost insuperable, and the advantage is not commensurate.

For relief of prurigo senilis I have found nothing so useful as the hypodermic injection of pilocarpin, and, though the relief is only temporary, to a patient worn almost to death by itching and sleeplessness a few days' respite is a glimpse of heaven. In psoriasis I have met with no good results from the use of pilocarpin, and in subacute eczema with bad ones.—*British Medical Journal*, February 6, 1892, p. 265.

#### 68.—NOTE ON A NEW METHOD OF SKIN GRAFTING.

By PRINCE A. MORROW, M.D., Surgeon to the Charity Hospital, New York.

I propose to briefly call attention to a new method of skin grafting which has, I think, an exceedingly valuable, though somewhat restricted, range in cutaneous surgery.

The peculiarity of the method consists (1) in the depth of the graft, which includes the entire thickness of the skin and in some cases a layer of subcutaneous tissue; (2) in the method of procedure, which consists in removing a button of tissue of any required depth by means of a round cutting instrument known as the Keyes' cutaneous punch, and immediately inserting it in a receptacle or bed previously made by the same instrument.

In this way there is obtained perfect coaptation of the graft with the base and margins of the surrounding tissues, thus insuring the most favourable conditions for immediate union of

the parts. In fact, the absolute accuracy with which this may be done leaves nothing to be desired from a mechanical point of view.

Some eighteen months ago I was led to devise this method by the importunity of a patient who had become somewhat hypochondriacal on account of the disfigurement of an ugly scar on the side and back of the scalp, the consequence of a severe burn received in infancy, forty years previously. He had been able to conceal the scar by combing the hair of the opposite side over it, until the rapid thinning of the hair from premature alopecia rendered this dissimulation no longer possible.

I first ordered a closely fitting *toupée*, which concealed the deformity with some degree of success, but, as it was difficult to retain in position and was otherwise objectionable to the patient, he besought me to attempt an operation for its cure. The only expedient which suggested itself to me was the insertion of hair-bearing tissue in the bald patch. So far as I was able to ascertain, medical literature does not record a single instance of the successful grafting of skin capable of producing hairs. In all cases where skin with hair on the surface has been used in grafting, the hair invariably fell out and was not reproduced; there was at the same time a loss of the secretory and other functions of the skin, showing a complete destruction of the follicular structures. In an able article on Skin Grafting, in Wood's *Reference Hand-book of the Medical Sciences*, this opinion is formulated: "From what we know of the growth of the skin, there can be no expectation of reproducing hair or other adnexa."

A successful issue in this case was rendered improbable by the character of the soil—an old cicatrix of forty years' standing, consisting of hard, dense, fibrous tissue, with a scant vascular supply.

These difficulties were explained to the patient, as well as the improbability of success, but he insisted on the experiment, assuming the entire responsibility of a probable failure.

In this case I first took a number of grafts from the opposite side of the patient's scalp and implanted them in the scar tissue. To my gratification, I found that union promptly occurred. I then waited several weeks in order to ascertain whether these ingrafted portions would produce a growth of hair, and found that the grafts undoubtedly grew hairs.

The practicability of the idea having been thus satisfactorily demonstrated, I next removed larger and deeper grafts from the scalp of another individual, who, for a sufficient pecuniary consideration, was prevailed upon to supply the material. These all took perfectly, and, after the lapse of several months,



there was sufficient evidence of the growth of hair in a number of the grafts to induce the patient to ask a continuance of the treatment.

A few words as to the details of the operative procedure may be appropriate here. The hair over the limited areas from which the grafts are to be taken is cut short, and these surfaces, as well as that in which they are to be implanted, are thoroughly scrubbed with soap and hot water, and afterward washed with a sublimate solution. The operation is conducted in every detail antiseptically. The first step is to prepare a bed for the reception of the grafts. With a slight rotatory motion the punch may be made to penetrate to the desired depth, and the included button of tissue is grasped in the centre with a mouse-toothed forceps, lifted up, and separated from its underlying attachments with a sharp bistoury or scissors curved upon the flat. There is but slight bleeding, which soon ceases under pressure with absorbent cotton; it is better to wait a few minutes until this subsides. A similar procedure is followed in the case of the graft to be implanted. As it is necessary to include all the follicular structures of the scalp, which penetrate deeply in the occipital region, each button was fully a quarter of an inch or more in thickness. This is immediately inserted in the receptacle already prepared, care being taken that the axis of the hairs are properly directed. The graft is fixed accurately in position and slight pressure maintained with a smooth spatula for a few minutes. After the desired number of grafts are inserted, each is retained in position by means of a thin covering of rubber tissue, the edges of which are moistened with chloroform. This substance, being transparent, permits a satisfactory inspection of the condition of the parts beneath; over this is placed a layer of borated cotton. A bandage completes the dressing. The holes from which the grafts have been taken are filled with iodoform and covered with adhesive plaster. They heal promptly, and become almost entirely obliterated by cicatricial contraction.

At the first inspection of the grafts twenty-four hours later, they are usually found to be firmly agglutinated, as may be determined by pressing on them with the point of a probe. Sometimes a little serum exudes from the sides, which may be absorbed by a cotton pledget, lifting up one edge of the rubber tissue for that purpose. For two or three days they may be dusted with iodoform. In no instance have I detected any purulent exudation. Ordinarily, within a few days the grafts are firmly united, and can not be detached without using force. They present a reddish hue for some time, which gradually fades out, and after several weeks the line of demarcation is scarcely seen.

The operation may be rendered absolutely painless by injecting a few drops of a cocaine solution. This does not interfere with the vitality of the graft. The only inconvenience I have found is a slight tumefaction of the part, which interferes with perfectly accurate coaptation. This may be obviated by the cataphoretic introduction of cocaine or by general anæsthesia.

In the last operation upon this patient the person furnishing the grafts insisted upon being etherised, and, in order to get through with him as soon as possible, I removed six grafts in succession, and, instead of immediately inserting each one as it was removed, I placed them in a solution of salt and tepid water for several minutes. This did not affect the result, as they all united promptly and perfectly. I learn from a letter received from the patient a few days ago (September 17th) that the hairs fell out from this last series of grafts and have not been reproduced. He further says: "There are some hairs growing in the former grafts. No doubt about that. I will say I would very gladly go on with the operation if I could be assured of success in the end." No further operative measures have been attempted owing to the impossibility of securing suitable material, as the patient's hair is difficult to match in tint and texture. Another serious difficulty was encountered in obtaining a sufficiently deep bed in the thinned contracted scar tissue in which to insert the grafts.

While the operation in this case has not yielded the most brilliant result, so far as a cure of the deformity is concerned, it has demonstrated the fact that it is perfectly practicable to ingraft deep sections of skin containing the follicular apparatus, preserving the integrity of their anatomical structure as well as their functions.—*The New York Medical Journal*, December 12, 1891, p. 652.

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## 69.—ON THE DIAGNOSIS AND TREATMENT OF THE INFECTIVE FORMS OF ECZEMA.

By ALFRED EDDOWES, M.D.

I accept almost without reservation the definition of eczema adopted by Dr. Unna, which is that "eczema is a chronic parasitic catarrh of the skin, with desquamation, itching, and a tendency to respond to irritation by exudation and well-marked inflammation." In the present state of our knowledge it is impossible to divide eczema into varieties with anything like scientific precision; but, thanks to Dr. Unna, we seem at last to have made a commencement in that direction.



*Eczema Seborrhœicum*.—Under this title a number of diseased conditions which were formerly variously named and looked upon as distinct diseases have been brought together, and shown to be due to one and the same cause. I will as shortly as possible detail the main characteristics of the affection.

It generally commences almost imperceptibly—as a scurfy condition (a seborrhœa) of the scalp. It may remain for an indefinite period in this condition, or it may assume a moist character, spreading to the ears, forehead, and cheeks. From these parts it may spread to the shoulders and arms, particularly their outer aspects, and to the backs of the hands; or it may affect the hands and face without having spread down the arms. The front of the chest and back between the shoulder-blades form paths by which the eczema spreads to the waist, to extend sooner or later to the genitals and lower extremities. It may spread over the whole body, although it flourishes best, so to speak, over those parts most richly supplied with sebaceous glands. The secretion is more or less greasy. On the chest and back the eruption is most typical, and consists of patches which, if not congested, exhibit a yellowish tint, and are more or less distinctly bounded by a curved continuous margin, which is slightly raised, red, and covered by scales or crusts. If a portion of crust be removed from a well-marked case, it will be found to be thick, yellow, friable, and greasy.

In any case of universal eczema it would be impossible to establish a definite diagnosis without a knowledge of the course which seborrhœic eczema naturally takes, because the peculiar configuration of the patches or circles as well as the fatty crusts are then absent. On the scalp, active patches may at first sight be mistaken for ringworm, particularly while spreading from the margin of the scalp to the forehead. The absence of short stumps and crooked hairs, however, excludes ringworm.

The greatest difficulty arises from the occasional great similarity of seborrhœic eczema to psoriasis. The points of difference are that the eczema extends from the head downwards, as already stated, while psoriasis spreads more rapidly, as a rule, to all parts of the body, showing itself specially on the elbows and knees. Itching is more marked in the eczema. If the dried exudation of the latter be removed, the skin underneath may exude, but it seldom bleeds.

It is a common practice to decide the question as to whether a given eruption be an eczema or psoriasis by examining the legs, and knees in particular. This is a mistake, because on the legs, from a variety of causes, eruptions lose their typical appearance. Efflorescences on the upper half of the body, especially on chest and back, are much more to be relied upon.

*Eczema about the Mucous Orifices.*—Under this heading may be included the tuberculous eczema of Unna, who has for many years taught that there is a true variety of eczema due to the presence of tubercle bacilli, an opinion strengthened by recent experience of the effects of injections of tuberculin. We are all aware how extremely common it is to find eczemas accompanying discharges from the various mucous orifices. If time had permitted I would gladly have treated this subject at length, especially as some interesting cases of infection of the skin arising from disease of the mucous membrane have recently attracted my attention.

*Eczema from Scabies.*—In rare instances it is not easy to establish the diagnosis of scabies. In all cases of difficulty special attention should be paid to the distribution of the rash. A good plan where the existence of a track is suspected is to place a little ink on the spot and then lightly wipe it off. In this way a track can frequently be very clearly made out.

*Treatment of Eczema Seborrhœicum.*—Unna considers that sulphur and resorcin are specifics for this disease. They may be applied in various ways, separately or in combination, and in different strengths—gr. x to xxx or more to  $\bar{3}j$ —according to the position and inflammatory condition of the eruption. In bad cases affecting the scalp it is advisable to cut the hair short and thoroughly dress the head with ointments; the scalp should be freed occasionally from scales by washing with a solution of soft soap in spirit and water; and during the night at least an oilskin cap should be worn. It may be laid down as a general principle that it is useless to attempt to prevent returns of this disease on the body without curing the scalp, which is the usual starting-point from which the affection infects the rest of the body surface, being conveyed mainly by the agency of sweat. If the disease be slight on the scalp, some such lotion as the following will form a pleasant application and prove of great service: Resorcin, 30 to 60 grs.; glycerine, 10 to 20 minims; acet. cantharidis,  $\bar{3}iij$ ; ol. amygdal.,  $\bar{3}iv$ ; eau de Cologne,  $\bar{3}j$ ; sp. vin. rect.  $\bar{3}iij$  to v; aq. ad  $\bar{3}viiij$ . Even when there is a slight itching and scarcely perceptible scaliness of the head the scalp should receive attention, especially as the insidious form of the disease, as a pityriasis, produces baldness. Warts are not uncommonly developed in connection with this eczema, and their treatment is essentially that of the eczema itself. After an apparent cure has been brought about, relapsing centres should be looked for and, if necessary, more energetically treated.

In bad cases of eczema of the eyelids ointment applied with the support of a bandage at night is specially to be recommended.



Ointment or other remedies can be applied to the ears and nostrils on lint or gauze wrapped round a short piece of rubber tubing or even a little roll of stiff paper, made to fit the orifices comfortably.

For eczema intertrigo powders are of great service and can be applied either rolled up in strips of gauze or in gauze bags and pads.

I have also seen powders give relief in pruritus ani when other favourite applications have failed.

In eczema affecting the legs the application of Unna's zinc gelatine with bandages is a method of treatment which deserves to be much more generally employed. It protects the skin from external irritation, and, being absorbent and capable of giving up moisture again quickly, is cool and comforting. It supports the veins and checks the spread of disease by infection along the surface. One immense advantage of this dressing is that it enables many patients to go on with their work who would otherwise be confined to their beds.

In eczema of the palms of the hands and soles of the feet it is sometimes necessary to remove much of the thick horny substance. In the chronic inflammatory conditions the usual method now employed is the application of Unna's salicylic acid plasters. In some of these cases I would recommend a trial of a bread poultice containing a few grains of acetate of lead or a small quantity of lead lotion.

In very acute cases, in which vesicles were present, I have made a practice of opening all prominent ones (after thoroughly disinfecting the surface of the skin) and after allowing the fluid to escape have as far as possible introduced lotions, pastes, or powders into the emptied cavities. So much relief has this method afforded the sufferers that they have requested me to continue the treatment and have assisted me in the search for fresh or previously overlooked vesicles. That this method of treatment should have occurred to me was only the natural result of the teachings of modern surgery and pathology.

When an eczema in children is widespread on the scalp or elsewhere and much inflamed, few dressings bring the surface of the skin sooner into a manageable condition and give greater relief than carron oil. This can be followed up by applications of zinc, bismuth, or mercury. To prevent scratching, Unna's zinc gelatine may be applied with bandages or the movements of the arms may be limited by the application of suitable splints. Of course attention should be paid to the condition of the gums, stomach, and bowels.

We may lay down certain principles applicable to the treatment of all forms of eczema. That all complications arising from internal sources of disturbance of the general health, such

as gout, diabetes, syphilis, disorders of digestion, etc., as well as external complications, whether in the form of primary, secondary, or tertiary infections, such as impetigo, pustules, boils, ringworm, etc., should receive due attention. That a weeping surface should be dried. For the latter purpose a lead and spirit lotion, dabbed lightly upon the part, followed by dusting freely with a powder composed of oxide of zinc, starch, and a little boric acid may be used. The amount of spirits of wine in the lotion is regulated from time to time according to the sensitiveness of the skin. This application can be followed by pastes, and later by ointments. Pastes can be readily made by adding starch powder to vaseline. A too dry and harsh condition of the skin requires grease; but few ointments keep well, and when rancid may aggravate an eczema greatly. An overstretched or infiltrated skin should be supported by careful bandaging, particularly on the legs. For this purpose I know of nothing more to be recommended than the gelatine dressing applied with gauze bandages.

Where large surfaces require the application of remedies, such remedies should be carefully selected and their effect watched on account of the danger which might arise from the absorption of poisonous drugs and from the idiosyncracies of certain skins.—*British Medical Journal*, December 19, 1891, p. 1304.

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## 70.—A SUMMARY OF THE CHIEF FEATURES OF AN EPIDEMIC OF SKIN DISEASE AT THE PADDINGTON INFIRMARY.

By THOMAS SAVILL, M.D., Medical Superintendent.

Of 846 patients who were either in the infirmary or who passed through during five months, 163, or nearly 20 per cent. were attacked. Only one out of all these was brought in with the disease; all the other cases occurred amongst persons already in the infirmary for some other reason. The eruption, which is in its essence a dermatitis of more or less general distribution, commences usually with discrete papules, which sometimes go on to the formation of vesicles, and always results in very extensive desquamation or exfoliation of the epidermis. It is attended by a certain amount of constitutional disturbance, and runs a more or less definite course of about seven weeks.

Some few cases commence with maculæ or blotches, bearing some resemblance to rōtheln, but this is not very common, and these patches, becoming confluent, soon present a uniform thickened crimson surface covered with flakes so characteristic



of the disease. But by far the most frequent mode of starting is by papules, the intervening skin being congested or erythematous. The first or papulo-erythematous stage lasts usually from three to eight days, then comes the stage of exudation or exfoliation according to the type of case, which lasts several weeks. The cases seem to group themselves naturally into two varieties—a “moist” type and a “dry” type. The moist type bears some resemblance to eczema, only they are attended by much more thickening of the skin. These are characterised by profuse exudation of serum, whereas in the dry type the skin desquamates or exfoliates without the previous appearance of vesicles. Nevertheless, dried exudation may be seen on the under surface of the scales with a magnifying glass.

The face seems a very favourite place for starting; but it begins sometimes on the covered parts of the body, and in about half the cases it spreads until it becomes universal. Considerable variation is to be observed both in the character of the eruption, in its place of starting, and the extent of surface involved. But they present a very striking general resemblance to each other, and the more one studies the cases the more is one convinced that they are all examples of one pathological condition modified by the circumstances under which it occurs.

The primary attack lasts usually from six to eight or ten weeks, but it is very liable to relapse; 38 patients out of 163 had one or more relapses, or, more strictly speaking, recrudescences, at least I do not recollect a case in which the skin had completely recovered before the fresh outburst. Other epidermal structures are generally involved, nails are shed, and the hair comes out. The hair of any part may be affected; in one example alopecia of the scalp followed the disease, and it is interesting to note in this case, as in some others, that the eruption itself was never visible on the surface of the scalp, although the dermal portion of the scalp must have been affected. Another interesting feature of the same case was that the advent of the disease was preceded by simple œdema of the face. A day or two after this the eruption appeared on the hands, then on the legs, and then the face was again attacked, and this time there were more visible evidences of the eruption than simple œdema.

The two most constant constitutional symptoms are anorexia and prostration. The anorexia was very marked in most cases. The fairly general rule is for the tongue to be coated at first, and afterwards to become raw and denuded of its epithelium (like the skin, be it observed). Sometimes there is vomiting, sometimes diarrhoea, complications which largely conduced to bring about a fatal issue. The temperature is not elevated, excepting when the inflammation of the skin is at its height,

and there is a large surface involved ; for the rest of the course it tends rather to be subnormal, and corresponds to the extreme collapse which sometimes occurs.

The disease bears some resemblance to pityriasis rubra, but the epidemic form in which my cases have occurred, the fact that children were almost exempt, and the exudation in the "moist" variety of cases, which constitute the majority, distinguish it from this disease.

The mortality among my cases was 12·8 per cent., excluding those in whom death was not directly due to the eruption. The death-rate was considerably higher among the males than the females, being 20 per cent. among the former, and 4 per cent. among the latter. Age seems to have an important influence, both on the severity of the attack and the mortality of the affection. The average age among the twenty-one fatal cases was  $70\frac{1}{4}$ . There are two constitutional symptoms which are of lethal import—tremor of the limbs and embarrassment of respiration without physical signs in the lungs. None of the cases recovered in whom I observed these signs, although at the time they might seem to be doing well in other respects.

Treatment seemed to be of little avail in most cases when once the disease had got a firm hold on the patient, but, in the earlier stage, antiseptics, such as creolin, seemed to have a marked controlling influence.

As to the morbid anatomy and pathology of the affection, my investigations are not carried far enough, at the present time to enable me to speak with absolute certainty. But is there not almost sufficient clinical evidence to stamp the disease as a contagious one ; namely, (1) its more or less definite course ; (2) the symptoms of constitutional disturbance which attend its local manifestation ; (3) the existence of a cutaneous eruption ; (4) its specificity, that is, the marked general resemblance of the cases ; (5) the serpiginous rings with which the eruption started in some of the patients ; (6) the marked effect germicides have in modifying the skin lesion ; (7) the wave-like manner in which the epidemic has come and gone ? Nevertheless, its contagiousness would seem to be but of a feeble order, inasmuch as the sick and healthy are by no means equally attacked. The essential predisposing conditions for its occurrence seem to be advancing years and debility, from sickness ("hospitalism") or other cause. Out of 24 persons in the infirmary, between the ages of 10 and 20, only 6 per cent. were attacked ; out of 57 between ages 20 and 30, 7 per cent. ; out of 46 between ages 30 and 40, 6 per cent. ; out of 58 between ages 40 and 50, 17 per cent. ; out of 43 between ages 50 and 60, 23 per cent. ; out of 73 between ages 60 and 70, 39 per cent. ; out of 79 between ages 70 and 80, 30 per cent. ; out of 19 between ages 80 and 90, 24



per cent. On the other hand, only 11 cases occurred amongst the healthy aged inmates of the workhouse ; and 6 of these, 5 females and 1 male, were acting at the time as "helpers" in the wards where cases of the disease were under treatment at the time. This, again, is a fact supporting contagion as a proximate cause.

It is needless to say that the possibility of food, soap, scabies, and water have been submitted to a very thorough investigation, and proved to have no connection with the malady. Nor have any considerable number of the sufferers shown evidences of the gouty diathesis.—*British Medical Journal*, December 5, 1891, p. 1201.

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## 71.—ON THE MECHANICAL TREATMENT OF ERYSIPELAS.

By PROFESSOR WOLFLER, M.D.

When a method of treatment has been recommended to us, and found from trial to have some claim to our approval, it is our duty to further its recommendation and improve its efficacy if we can, and not stand with folded arms, or remain as mute imitators. I am perfectly cognisant of the different attempts to check erysipelas by means of applying adhesive plaster, but my own experience had never been such as convinced me of the benefit or injury that would arise from its careful application till very recently, when the thought occurred to me, when reasoning on the subject, that some virtue, not clearly explained, could be assigned to simple local pressure. With this conviction I recently applied myself to re-test the therapeutic effect of treatment which appears to confirm other opinions recorded in the local treatment of the disorder. In my own section this disease is becoming gradually less, but the few that I have experimented with are conclusively in favour of the treatment.

The mode of applying the adhesive remains the same. Where the parts are covered with hair, as the head, it is better to shave them before applying the plaster ; in females, however, it is not always necessary to shave, as the hair can be parted and tied to the crown without hindering the application of the strips. Before any of the strips of plaster be removed care should be taken that a new band of plaster be applied. This removal sometimes arises from the primary application being placed rather near the focus of radiation. If the adhesive be applied exactly it will be found that the progress of the rosy colour will be checked, and will rarely go beyond this artificial line of demarcation. In exceptional cases this rule may not be exactly

adhered to, but in these cases it will not extend beyond two or three fingers' breadth. If the plaster be not exactly applied the redness is likely to extend beyond its limitations within a few hours.

One is sometimes tempted to remove the strips too early, which requires much care in the successful treatment, as the redness may flit about, and settle down in some more distant part. Two to three days after the redness and fever has gone is little enough, but it is safer to allow them to remain four or five days after all symptoms have subsided. Since my last communication on the same subject I have treated sixteen cases of erysipelas, thirteen of which were on the face and head, and the whole were treated within six months. On the former occasion thirty were treated within ten months, of which two ended fatally. The following is a *résumé* of the cases, with dominant symptoms:—

1st.—M. A., æt. 42, received into hospital with tuberculosis of elbow-joint, on October 10th and on December 3rd, erysipelas commenced in the nose. Temperature in the morning  $39.5^{\circ}$ , and in the evening rose to  $40^{\circ}$ . On the first day of appearance plaster was applied around the part. Without much extension the temperature was normal on the 6th day.

2nd.—H. P., æt. 74; carcinoma maxil. superior. On December 1st erysipelas commenced on right cheek, extending towards the ear, involving upper eyelid. Plaster was applied, on the second redness extended to the right ear and temple, where it was checked, and four days after the fever disappeared.

3rd.—M., æt. 65; ulcer cruris. Erysipelas commenced on the face with a small centre at the nose on the 17th January; fever  $40^{\circ}$ . The redness did not extend beyond the strips on the forehead, and was feverless on the 7th day. On the 9th day the straps on the neck got detached, after which the redness rapidly extended to the thorax. After a new application of the plaster around the thorax, the whole subsided on the 11th day.

4th.—S. C., æt. 22, was received with high fever on the 14th January, when the plaster was applied. The temperature gradually fell till the 6th day, when the patient was normal.

5th.—A. M., æt. 35, was received with erysipelas on face and neck. This case had been first attacked two weeks before admission, which had subsided but recommenced two days before admission. After the application of the plaster the temperature rose to  $39^{\circ}$ , then gradually fell to normal, while the redness also disappeared.

6th.—F. F., æt. 25, received with erysipelas on face and head. The strap could only be applied to the neck, which the redness gradually approached and quickly subsided. The temperature rose to  $41^{\circ}$ , and in four days after was perfectly normal.



7th.—N. J., æt. 68, was received with a *fractura complicata maxillæ superior*. Five days later the temperature rose to  $39\cdot3^{\circ}$  with redness on nose and left cheek. Straps were applied; the redness extended to the plaster and stood; the temperature became normal on the 9th day.

8th.—W. J., æt. 27, with erysipelas arising from injury to head. Face and head was already attacked and part of the neck invaded, on which it was deemed useless to apply the plaster. It was applied around the shoulder to save the thorax. The temperature rose to  $39\cdot5^{\circ}$ , and was  $37\cdot0^{\circ}$  on the 5th day.

9th.—K. A., æt. 45, erysipelas on face, admitted February 10th; straps applied to brow and upper lip, beyond which it did not extend. Fever subsided in six days.

10th.—S. A., æt. 64, erysipelas from an orbital wound; extended at first over brow, nose, and cheek. Straps were applied behind ear and round front of neck. The redness advanced to the delimitation stopped. All gone in six days.

11th.—H. M., æt. 51, tubercular ulcer on face. The temperature rose to  $40^{\circ}$ , with erysipelas on left side of face. Straps were applied in front of ear, &c., to which it advanced, but did not go beyond; fourteen days later temperature was normal, but patient died after three weeks from tubercle of lung.

12th.—Z. J., æt. 40, sarcoma of parotid, for which an injection of pyoktanin produced erysipelas. Alcoholic lotion and strap limited the inflamed area.

13th.—M. R., enchondroma maxil. sup. for which resection produced erysipelas. A similar success from plaster.

The other three cases were attacked on various parts of the body, and were treated with the plaster, and with as favourable results.

Looking at the foregoing effects, no one can deny the influence of the adhesive in limiting the extension of the inflammatory focus which is typically displayed in the case of the face, where the fever continued on an average of four to six days, and then disappeared. It may be further noticed that out of the thirteen cases there are three exceptions; two cases where the temperature had fallen, it then reappeared on the second day, while one reappeared after ten days owing to the straps becoming loose early, and no care being taken to replace them. It may still be further noticed in this series that the mechanical treatment of erysipelas of the face gives a more favourable prognosis than it does in the under extremities. In the latter the inflammatory progress does not seem to be limited with the same precision as it can in the face. Frequently, it may be observed that in the under extremities that it has passed the adhesive barrier, and is rapidly progressive in area, and defying all mechanical restraint. A similar condition is observed when

erysipelas is treated by Kraske-Riedel's method—scarification—so that the presumption cannot be entertained that the movement of the extremities have disturbed the adhesive plaster and allowed the inflammatory process to advance.

In attempting a theoretical explanation of this mechanical treatment where the extremities cannot be successfully treated, it is more reasonable to be believed that the streptococcus finds its way onward in a deeper channel through the ligatured portion by the sheathes of the muscles, and, escaping beyond to the surface, pursues its onward ravages in the cutaneous surface. This opportunity in the face is absent, as the bones lie near the surface, and the adhesive ligature retains the cutaneous surface tightly against the osseous structure, and temporarily cutting off all communication. This effect is also favoured by the insertion of the fascia in the neck to the hyoid and thyroid bones that also assist to act as barriers. This view is partially supported by the fact of scarification being sometimes successful in limiting the spread of the red area while the mechanical more frequently fail.

Notwithstanding these defects in the mechanical treatment, I may say that, during five years, sixty cases have been treated in this way; two died from sepsis acutissima, while forty-eight had the disease decidedly limited, and recovery assured.—*Medical Press and Circular*, November 4, 1891, p. 462.

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## AFFECTIONS OF THE EYE AND EAR.

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### 72.—ON THE TREATMENT OF SPREADING ULCER OF THE CORNEA WITH HYPOPION.

By RICHARD WILLIAMS, M.R.C.S., Surgeon to the Liverpool Eye and Ear Infirmary.

Few affections of the eye are more rapid in their progress or more destructive in their consequences than those cases of ulcer of the cornea with a collection of pus in the anterior chamber, and yet I believe there are not many affections more amenable to prompt and appropriate treatment. I propose in this paper to introduce a method of dealing with these cases which, as far as my knowledge extends, has not hitherto been in general use, and which consists, first, in the local application of quinine; and secondly, in a modification of the usual incision for the evacuation of the pus contained in the anterior chamber. I am able to speak of this method of treatment after an experience



of several years, during which I think I have had ample reason to be satisfied with its results. As is well known, these cases are met with among the debilitated of all ages, most frequently as the result of traumatism. Among the colliers of the Wigan district they occur with unusual frequency, and I venture to assert, therefore, that my experience of them is above the average. In their treatment I have employed a solution of quinine during a period of upwards of ten years. The following mixture is used in nearly all cases that come under my care: *R. quiniæ sulph. neutr., gr. iv. ; liq. atropiæ sulp., ʒ i. M. ; ft. guttæ.* In simple ulcers without hypopion I am in the habit of prescribing eserine much oftener than atropine, but I invariably prescribe the latter drug where hypopion is present, because iritis is a common feature in this condition. I doubt if either eserine or atropine has any appreciable influence upon the suppurative process. On the other hand, there is hardly anything in medicine about which I entertain less doubt than that quinine locally applied has an immediate and powerful influence in arresting this process and in causing the absorption of the pus already collected in the anterior chamber. I believe I have had repeated evidence of this both in my private practice and public clinique.

It may be argued that these cases often recover under atropine or eserine, hot fomentations, and antiseptic lotions, and that they are no proof of the value of quinine locally applied. It is obvious that positive proof is practically out of the question in cases of this description, and it is only after comparison of a long series of cases treated by both methods that anything like an authoritative opinion can be ventured. A vivid recollection of the frequency with which these cases went from bad to worse in my earlier years leaves no doubt in my mind of the immense superiority of the quinine treatment. I am far from saying that all cases of hypopion can be made to disperse by means of quinine; but I am constantly seeing cases in which, in my judgment, the process is quickly arrested, and which would otherwise inevitably require operative measures. Old cases where the pus has become mixed with fibrinous material will no doubt require evacuation, but I believe that even then the use of the quinine drop exerts a powerful influence in preventing the reaccumulation of the pus. Before leaving this part of the subject, I may say that patients make no unusual complaint of smarting in using the drops. An aqueous solution of the soluble quinine is innocuous, and can be used as frequently as necessary without the least detriment to the eye. Coming, then, to those cases where the evacuation of the pus by operation is imperatively demanded, the question arises, What is the best method of performing paracentesis?

There are two methods in ordinary use : First, by making a horizontal incision, parallel with the margin of the cornea, just underneath the purulent collection ; and secondly, Saemisch's incision, which consists in passing the knife into the anterior chamber at the spot where the ulcer may happen to be and dividing it through and through, as shown in Fig. 1, the blade

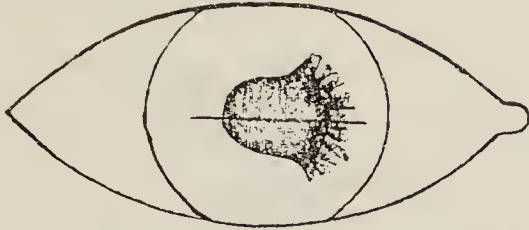


FIG. 1.—Saemisch's incision. After De Wecker.

entering the anterior chamber and emerging from it in healthy tissue.

To the first of these incisions there are serious objections.

1. The anterior chamber does not empty itself well, especially when the knife is slowly withdrawn, as is generally advised.
2. There is considerable danger of prolapse of the iris.
3. There is the maximum danger of interference with the nutrition of the cornea, because more of the nutritive channels, which are radially arranged, are involved in the incision. In fact, the only advantage this incision possesses, as far as I can see, is that it leaves no visible scar. Personally, I have entirely abandoned it for several years.

Secondly, Saemisch's incision. I believe the good effect which undoubtedly follows this incision is due, not to the fact that the ulcer is cut through, but because the anterior chamber is more thoroughly emptied of the pus. On the contrary, any incision of an already attenuated and weakened part of the cornea, must, it seems to me, be in itself injurious. I have not seen any reason advanced for dividing the ulcer itself as practised by Saemisch, and, unless it can be shown that this method possesses some curative influence other than is brought about by the thorough evacuation of the anterior chamber, I believe an incision in healthy tissue is decidedly to be preferred. Moreover, it is evident that if the ulcer should happen to be situated in the upper two-thirds of the cornea, the evacuation of the contents of the anterior chamber must be a matter of some difficulty ; and this is probably the reason why authors generally agree that the incision should be reopened daily for some time. It requires no great knowledge of the subject to see that this reopening of the chamber is a great drawback to the progress of the case. It prevents healing and greatly facilitates the formation of anterior synechiæ, not to speak of the pain and the annoyance it gives a patient already reduced and little able to bear them.



Basing my practice on these considerations, I now always make the incision as shown in Fig. 2. I introduce an ordinary Graefe's knife into the anterior chamber underneath the purulent collection, and carry it directly upwards in the direction of the pupil, care being taken not to enter the pupillary area. I withdraw the knife rather quickly with a forward motion, and

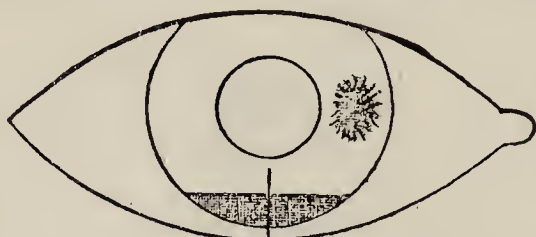


FIG. 2.

the result is that the aqueous escapes with something of a rush, carrying with it the purulent mass which generally sticks between the edges of the incision, where it can be easily picked out with a pair of forceps. Any remaining fluid pus immediately follows, and the anterior chamber is left perfectly empty. I think this incision has distinct advantages over the others to which I have referred. 1. It is made at the seat of the purulent collection, and being *in the line of pressure* from behind, the evacuation is as complete as it can be. 2. Being made in the direction of the nutritive channels, it offers the minimum of interference with the nutrition of the part. 3. Prolapse of the iris is impossible, because the effect of pressure of the muscles upon the globe is to bring the edges of the incision together, and so effectually to prevent protrusion of the iris. 4. Being made entirely in healthy structure, it heals by first intention, and I *never have occasion to reopen it*. If, after practising this incision, the case goes from bad to worse, it is not because the anterior chamber requires to be reopened, but because of the continued spreading of the ulcer. I have no doubt, however, as already mentioned, that the use of the quinine drop after the operation has much to do with preventing the reformation of the hypopion. In the event of the ulcerative process continuing and threatening, as it sometimes does, the entire surface of the cornea, I consider the actual cautery the most effectual means at our command for arresting the spreading process. In conclusion, I think the only objection likely to be advanced against this incision is that it leaves a scar; but I consider this a purely theoretical objection. The incision need never encroach upon the pupil, hence no interference with vision need be apprehended, and the scar, being linear, is practically invisible against the background of the iris.—*The Lancet*, January 2, 1892, p. 15.

73.—ON THE TREATMENT OF TRACHOMA BY  
EXPRESSION.

By THOMAS R. POOLEY, M.D., New York.

Among the most unsatisfactory cases to treat in the whole domain of ophthalmic therapeutics, trachoma may justly be placed in the very front rank, and any plan of treatment which will shorten the chronic duration of this disease must be considered a boon. That this has been accomplished by the recent revision of an old plan of treatment, the experience of ophthalmologists both in New York and elsewhere, who have tried it in a large number of cases, would seem to show, and the evidence that it cuts short the progress of these cases to a wonderful degree is fast accumulating. This much may fairly be said without running the risk (as is too often done in our enthusiasm) of being too sanguine about any new method of treatment. The purpose in this communication will be to set forth as concisely as possible the results obtained by the operation in a few cases, with such observations as the experience thus obtained would seem to suggest. These cases embrace all those operated on by this method since November, 1890, a period covered by one year, and in all cases only those were selected which seemed especially applicable to this method—*i.e.*, acute cases which showed a disposition to become chronic, and where the trachomatous bodies are more or less numerous, with but little irritation and moderate inflammatory reaction.

The method is not applicable to the third stage of trachoma, usually known as diffused, in which another one known as *grattage* is now employed by some operators. The cases from which the writer's experience has been gathered embrace but a limited number; nevertheless, they have all of them been followed to their ultimate conclusion, and afford, therefore, a good criterion of the results to be obtained by this method of treatment. Seven patients and ten eyes were operated upon. In all except one the patient was placed fully under the influence of ether; in one cocaine alone was made use of, while in several others cocaine as well as ether was employed. When ether alone is used the hemorrhage is more profuse than when cocaine is also employed.

Most operators employed specially-constructed forceps. At a recent discussion in one of the medical societies nearly all present had one of their own invention to show. That these are sometimes advantageous can not be denied, but the author greatly prefers for the expression of the contents of the granules to use the fingers and the thumb-nails, which should be thoroughly cleansed and scrubbed with a nail-brush. The



lids are everted and then the granules squeezed out by the thumb-nail aided by the index finger in the *cul-de-sac*, or else both index fingers may be used, the left beneath, and the right—which does the most work—above the lids. The application of this method is especially difficult in the angles, where the use of forceps may be needed, in which case either the forceps invented by Dr. Noyes or an ordinary cilia forceps was made use of.

The success of the operation depends upon the thoroughness with which every granule is expressed, or emptied of its contents, and is therefore an exceedingly tedious procedure. The eyes must be frequently cleansed during the operation by a solution of boric acid or bichloride of mercury. In six cases, after the lids had been thoroughly cleansed and dried, their surfaces were rubbed over very thoroughly with a crayon of sulphate of copper, as recommended by Dr. Gruening. In four cases this was omitted. At first the patients were always kept in the hospital for two or three days after the operation, but as more knowledge was acquired by experience as to the nature of the reactive processes, they were in some cases, where there were objections to this, allowed to return home. Cold compresses often changed were applied over the lids for about twenty-four hours—in some instances longer—to combat the reaction, which was usually severe, and in one case even threatened the destruction of the eye. It was usually, however, confined to swelling and œdema of the lids, which, under the use of cold compresses, rapidly subsided, and was always the most severe when copper was used. In a few days after the operation, if all the granulations had been expressed, no appearances of trachoma remained, but a good deal of conjunctival swelling and secretion, which continued for some time, gradually subsided, leaving the lids in a comparatively healthy condition. All of the cases were practically cured in from three to five weeks, except one in which there was dense corneal pannus and a good deal of reaction from the treatment as well. This case is the only one of the series in which the cornea was affected or the sight impaired: in all the others the disease was confined to the lids alone. In all but one instance only one eye was operated upon at a time. The experience of the operator in one case where this was deviated from will probably deter him from repeating it again.

To sum up the advantages of this method of treating trachoma, it seems not too much to say that by it we can cure in a few weeks cases which, under the old plan by the use of nitrate of silver and sulphate of copper, would last for months and years, and this, too, by an operation which is comparatively free from danger. The success of the operation will, no doubt,

be in direct relation to the thoroughness with which it is done. Although many of the granulations may be absorbed by the reaction consequent upon the operation, still, should some of these remain, there will still be trachoma to some extent which may spread again over the whole conjunctiva. And it may even be necessary to resort to a second operation.

The operation in which the sulphate of copper is used gives the best results, although a cure may be effected without it if care is taken to be thorough in the expression of the contents of all the granulations. It is desirable to operate upon only one eye at once, because of the possible dangerous reaction when both are done at once ; besides, the operation, if carefully done, would be too tedious and long an operation. The treatment by this method is far less dangerous than inoculation of pus, sometimes practised in severe cases of trachoma, and is also less dangerous and more efficacious than the treatment by jequirity. We may therefore hope that at last we have a means of effectually combating this hitherto intractable disease—and that our hospitals and dispensaries will soon cease to be crowded by the daily attendance of chronic trachoma patients—by a procedure which not only arrests but cures the disease in its first stages.

That the old cases—those which have been modified by a long course of treatment with caustics and diffused trachoma—will as readily be cured by the operation of grattage does not seem to the writer as probable ; but should this be so, we shall then have at our command two procedures which will render us masters of the situation.—*The New York Medical Journal*, February 13, 1891, p. 169.

#### 74.—THE TREATMENT OF PURULENT OPHTHALMIA.

By W. T. HOLMES SPICER.

[Mr. Spicer reviews the treatment adopted in 158 cases of purulent ophthalmia taken into the wards at the Moorfields and St. Thomas's Hospital as follows :]

There is necessarily a similarity in the treatment of all the cases up to a certain point. The cornea must not be allowed to remain bathed in a highly poisonous discharge, frequent application of cleansing lotions must be made. Where the cornea was sound, as a rule the applications were iced, or ice-pads were kept constantly applied to the eye ; where the integrity of the cornea was endangered, as shown by infiltration, or loss of perfect transparency, ice was not applied, but eserine drops used instead. Whatever was the nature of the cleansing



lotion, simple iced water, boracic acid, chloride of zinc, carbolic acid, or weak perchloride of mercury, the result was not affected; each, in turn, had a certain amount of favour, as shown by the following list: *Kinds of treatment used more or less in combination*.—Nitrate of silver, mitigated stick, 18 cases; nitrate of silver, gr. xx to oz., 66 cases; nitrate of silver, gr. x, 24 cases; nitrate of silver, gr. v, 2 cases; chloride of zinc, 45 cases; ice, 46 cases; boracic acid, 47 cases; carbolic acid, 28 cases; hydrarg.-perchlor., 23 cases; iodoform, 26 cases; quinine lotion, 8 cases; zinci sulph., 4 cases; alum, 3 cases; poppy fomentation, copper sulphate, resorcin, lapis divinus, peroxide of hydrogen, absolute alcohol, Condyl's fluid, 1 case each; scarification of the conjunctiva, 4 cases; leeches, 2 cases; canthotomy, 3 cases; (for corneal complications) galvano cautery, 2 cases; belladonna fomentations, 2 cases; atropine, 9 cases; eserine, 18 cases; Sæmisch's section, 2 cases.

There is no doubt about the great superiority of strong nitrate of silver, applied by the surgeon directly to the everted lids, over every other form of treatment; the percentage of recoveries depends more upon this factor than any other.

To compare the results it is necessary to start with similar factors; all those cases in which the cornea was sound on admission are grouped together with the result of the treatment.

Cornea sound on admission.—Complete recovery, 98 cases—strong argent. nit. was used in 80 or 81 p.c.; strong argent. nit. not used in 18 or 18 p.c. Serious damage to, or total loss of eye—strong argent. nit. was used in 10 or 55 p.c.; strong argent. nit. not used in 8 or 44 p.c.

The stronger applications, the mitigated stick, or the 20 gr. sol., appear to be more successful than the 10 gr. sol.; but this does not come out very strongly.

A paper was published by Burnham in the tenth volume of these Reports, advocating the use of carbolic acid, 1 in 20, in gonorrhœal ophthalmia, and stating the good effect this treatment had had; his cases are included in this list. A form of treatment may have very good results in the hands of one man, from some particular care or method of application, but it must be shown to be equally successful and easy of application in other hands before its claim is substantiated. Tested in this way, carbolic acid is not found to be especially good; its effect is less lasting than that of nitrate of silver; it has to be applied more frequently to the everted lids, and this means more pain, and possibility of damage to the cornea.

In a certain number of cases the sac was washed out daily with strong hydrarg. perchlor., gr. iv to the oz., but the number of cases is not enough to draw conclusions from. A stick of mitigated perchloride of mercury was used by the House-

Surgeon at Moorfields for a time in cases of ophthalmia neonatorum, but was given up in favour of the strong silver.

*The Use of Buller's Shield.*—There can be no doubt that, if kept properly applied, the shield must be of great use in protecting the sound eye from infection, but without its use the second eye may escape for a long time; in many cases the discharge continued upwards of three weeks in one eye, without the other being inoculated; in one case the right had been discharging five weeks without the left becoming infected. On the other hand, in many cases which had gone on safely for a time, the sound eye eventually became involved, as in one case, in which the second eye was infected after four weeks, the stress of the attack having passed over in the first eye.

It must not be taken for granted that, because the shield is there, the occluded eye is quite safe. Six cases in which the second eye became infected, although the shield was being worn, show that the shield is not an absolute protection. No doubt the inoculation was due, in every case, to inefficient application, or to a loosening of the attachment of the shield, but if it cannot be kept properly applied at an ophthalmic hospital, it will, probably, be less efficiently done elsewhere. It is difficult to secure constant adhesion of the plaster, which gets moistened by the applications to the other eye, and its inner border detached. Attention should be constantly directed to this, the weakest point in the armour of defence.—*The Royal London Ophthalmic Hospital Report, December, 1891, p. 216.*

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## 75.—ON THE TREATMENT OF “ATTIC” SUPPURATION BY EXCISION OF THE MEMBRANA TYMPANI AND AUDITORY OSSICLES.

By WILLIAM MILLIGAN, M.B., Assistant Surgeon to the  
Manchester Institution for Diseases of the Ear.

The region of the middle ear, known as the tympanic attic, is the space lying above the level of the short process of the malleus. The boundaries are, externally, the flaccid membrane and the outer osseous wall of the drum cavity; internally, the malleus, neck and head, and the anvil; above the superior ligament of the malleus; and below the short process of the malleus. This region is divided by numerous folds of mucous membrane into spaces of varying size, which, although of comparatively small importance anatomically, are most important from a pathological point of view. On account of the want of free communication between these several spaces, great difficulty



is encountered in thoroughly cleansing this region when diseased. The spaces are partly closed, partly communicate with one another, and with the remaining portion of the tympanic cavity. Retention of secretion is favoured by the mechanical arrangement of the parts, with the result that caries of the head of the malleus and of the incus or of the surrounding bony parietes is common. Suppuration here is also frequently associated with other lesions—for example, with extensive perforations in other parts of the membrana tympani, with luxations of the ossicular joints, and with disease of the mastoid antrum. The frequency with which suppurative inflammation is found in the tympanic attic is variously stated by different authors. Randall, in an analysis of 500 cases, found attic suppuration present fifteen times; in another analysis of 2,000 cases he found it present fifty times. In 375 cases which I have analysed I have found it present twelve times, or in  $3\frac{1}{5}$  per cent. of the cases. There is no doubt that it is one of the rarer forms of middle ear disease, but I am inclined to think that its frequency has been underestimated rather than the reverse. Although not of common origin, its importance demands careful consideration.

As regards the etiology of this condition, it has for long been a vexed question as to how suppurative inflammation localises itself in the cells lying behind Shrapnell's membrane. Walb holds that the inflammatory process is propagated along the external auditory meatus. He believes either that an otitis externa circumscripta has affected the point between the membrana flaccida and the wall of the external meatus, or that an otitis externa diffusa has encroached upon Shrapnell's membrane, or that a disease of the external ear accompanied by secretion has produced an infection of the tympanic cavity inside the membrana flaccida through the foramen Rivini. He believes in the existence of this foramen. Most authors, however, hold that the affection is of "tubal" origin, and secondary to pharyngeal or naso-pharyngeal disease. Primary acute inflammation involving Shrapnell's cells is rare. The majority of cases run a chronic course, and, either from the frequent occurrence of a second perforation in a different part of the membrana tympani or from their clinical history, suggest the tubal origin of the disease. Thus it is not uncommon to find an open perforation in Shrapnell's membrane and a cicatrised perforation in some other portion of the drumhead, indicating probably that originally the whole middle ear had been involved, but that, whereas the suppuration had either been cured or had spontaneously ceased in the lower portion of the middle ear, it had remained persistent in the spaces lying behind the membrana flaccida. The fact that we have in this part of the ear a series of spaces not readily communicating with one

another, and easily shut off from the general tympanic cavity by inflammatory adhesions, seems to me sufficient to explain how suppuration, if once established here, should tend to become chronic. Kretschmann holds that the tympanic cavity is first involved, and following this the ossicles are attacked with caries owing to retention and decomposition of secretion. The analysis of clinical records also goes far to show that attic suppuration is a secondary affection. Schmiegelow, in 37 cases, could find no immediate cause in 9 ; in 5 the affection came on during an acute inflammation of the nose and naso-pharynx, and in 4 it began apparently as an acute middle-ear catarrh ; 12 patients referred the disease to childhood, but were unable to assign any definite cause ; in 2 cases the affection followed scarlet fever, and in 2 cases a box upon the ear. In 12 cases which have recently come under my care, the disease was secondary to scarlet fever in 6, and to naso-pharyngeal catarrh in 2. In the other 4 cases no definite cause could be assigned. To accept Walb's theory we are almost bound to admit the presence of the foramen Rivini, a foramen whose existence is denied by most anatomists. In those cases where the disease has lasted a long time, and its course is usually very chronic, the ossicles, although apparently healthy, will frequently be found diseased. Careful exploration with a fine probe will reveal carious spots unnoticed during inspection. The surrounding bony parietes are also often affected. Inflammation of the tympanic mucous membrane leads rapidly to caries as the mucous coat serves also as the periosteal lining. The intimate relations existing between the temporal diploic veins and the cerebral sinuses make bone disease here a serious complication. Of the three ossicles the incus is the one most frequently found diseased. Ludwig, in 32 cases of hammer-anvil extraction, found the incus carious in 11, or 34 per cent., both malleus and incus in 16, or 50 per cent. ; the incus was thus carious in 27, or 84 per cent. of the cases. The stapes is seldom affected. When it is, the disease is usually confined to its arms. The footplate having a more intimate blood-supply escapes. The incus unfortunately is frequently not to be detected by the eye or the probe, and hence disease here is not to be diagnosed with certainty. Yet according to some authors disease of this ossicle is frequently the cause of keeping up suppuration. Some surgeons accordingly advise that the two ossicles—the malleus and the incus—should always be removed together.

The treatment of "attic" suppuration is at all times tedious. In fact, no cases of ear disease tax the resources of the surgeon and the patience of the patient so much as do these cases. The importance of thorough eradication of the disease is, however, at



once evident when we recollect the relation of this space to the base of the brain, the mastoid antrum, and the lateral sinus. The ordinary methods of treatment by the use of lotions, caustic applications, and the insufflation of various powders will generally be found insufficient, as the source of the disease is seldom reached by any of these means. Thorough irrigation of the attic by means of Hartmann's cannula or Blake's syringe may at times be successful, but the method is tedious and uncertain. Solutions of corrosive sublimate (1 in 2,000), resorcin (2-3 per cent.), or peroxide of hydrogen may be used for this purpose. Schubert, however, finds that irrigations into the tympanic attic are in general unsatisfactory. The question of excising one or more of the diseased ossicles and the remaining portions of the membrana tympani was first proposed by Schwartze, and has since been frequently accomplished. The indications for the operation are: (1) chronic purulency of the middle ear, with caries of the ossicles, and (2) the presence of cholesteatomata in the drum cavity. In those cases where carious spots are found in the walls of the middle or external ear careful scraping must at the same time be resorted to. The main points to keep in view are: (1) the thorough removal of all foci of disease, and (2) the establishment of free drainage. The results of the operation are gratifying. Ludwig, in 32 cases operated upon, found suppuration ceased in twenty cases, with regeneration of the membrana tympani five times, without regeneration of the membrane fifteen times. Eleven cases at the time of writing were still under treatment: one case had died, but not in consequence of the operation. Burnett records a case of chronic purulency of six years' standing which had resisted all the ordinary methods of treatment. He excised the malleus and the membrana tympani, with the result that the purulent discharge ceased and the hearing power improved. Sexton strongly advises this operation. He records 29 cases where this method of procedure was adopted. Colles relates 13 cases with 8 cures, and 5 in which there was great improvement in hearing, in freedom from ear-ache, tinnitus, and vertigo. Wetzell, Rheinhardt, Kessel, and others also endorse the value of this operation. I have lately had the opportunity of performing this operation four times, in each case with complete cure of the purulency, and in all with subsequent improvement in the hearing power. To perform the operation a strong light is essential. Some surgeons prefer the electric photophore of Trouvé, worn upon the forehead; others prefer Sexton's electric lamp. The ordinary forehead-mirror reflecting the light from a good lime-light apparatus answers every possible requirement. A general anæsthetic is essential. Previous to the operation, the ear should be carefully irrigated with warm carbolic or

boracic lotion several times daily. The auricle should be cleaned with turpentine or ether, and kept covered with a carbolised towel. In order to minimise hemorrhage from the incisions, a 20 per cent. solution of cocaine kept in the external meatus for five minutes previous to operating will be found useful. If the membrana vibrans be intact, which it very rarely is in these cases, a circular incision should be made  $\frac{1}{16}$ th of an inch from its attachment to the tympanic ring. The tendon of the tensor tympanic muscle is then to be cut close to its insertion into the long process of the malleus. The superior ligament of the malleus is then divided. A curved knife must now be passed, and the ligaments connecting the malleo-incudal joint severed. The malleus will now be free, and may be removed by means of forceps or by the snare. If the incus is also to be removed, it must be drawn down by a fine hook—*e.g.*, that of Kretschmann, Ludwig, or Ferrer—and the ligaments uniting it to the stapes severed. The ear should then be irrigated with warm boracic lotion and carefully dried. Finely pulverised iodoform should be insufflated into the ear, and the meatus lightly packed with iodoform wool. Slight oozing is apt to follow the operation for the first few days. If the dressings become moist they must be changed. The drier the parts are kept the quicker is the process of repair. (Here follow the notes of four cases in which the malleus alone was removed successfully.)

In considering the advisability of removing diseased ossicles it must be borne in mind that anything which tends to keep up suppuration from the ear is a source of danger not only to the hearing but also to the life of the patient. Absorption of putrid pus may take place into the systemic circulation, and set up general pyæmic symptoms, of the formation of localised abscesses in the cerebrum, the cerebellum, or the lungs. It becomes, I think, the duty of the surgeon to free the patient from this possible source of danger regardless, one might almost say, of the effect the operation may have upon the hearing power. The result *quoad vitam* should be more highly valued than *quoad functionem*. It must be remembered also that in many of these cases of attic suppuration with perforation of the flaccid membrane the hearing power is by no means very poor. The results of the operation, however, show that the hearing power may improve in a remarkable way in many cases. In Ludwig's analysis of 32 cases the hearing power was decidedly improved in 16, remained as before in 9, and was impaired in 3 cases; 4 cases did not undergo a re-examination. In my four cases there was improvement in all, especially in the second case. It must be borne in mind that the operation is not altogether free from risks. There is a danger of wounding the chorda tympani nerve in its passage through the middle ear. This accident



happened in my first case, and was followed by some defect in taste for a few days. No special regard, however, need be paid to this accident, as the disturbance of taste is merely a temporary phenomenon. Facial paralysis may occur as the result of the operation. In two recorded cases in which this accident did occur, it disappeared after treatment by electricity. With due care these accidents may be avoided, and the operation will in most cases be found eminently successful.—*The Lancet*, January 16, 1892, p. 136.

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## 76.—ON DISEASE OF THE TEMPORAL BONE.

By A. J. PEPPER, F.R.C.S., Surgeon to St. Mary's Hospital.

If I were asked to mention the surgical diseases in which preventable deaths are most common I should cite strangulated hernia, perforation of the vermiform appendix, and suppuration in the mastoid cells. No doubt the majority of cases of inflammation of the middle ear and the surrounding bone tend to spontaneous cure, or at least to such amelioration as to place the sufferers apparently out of danger. I say apparently, because so long as a perforation of the tympanic membrane remains with discharge, however slight, whether continuous or intermittent, there is an abiding cause of a possible fatal issue. How often do we meet with instances of ear disease in which, perhaps, years have intervened between the initial attack and the subsequent accession of acute symptoms—a renewal of the storm with its attendant threatenings. But there is another reason for the delay or neglect, as the case may be, in resorting to early operative interference. I refer to the regional anatomy of the parts affected. The close juxtaposition of the brain, the lateral sinus, and the carotid artery to the area of primary mischief has undoubtedly led the practitioner too often to defer or abandon the only treatment likely to be of the least avail. I cannot too strongly insist that such a reason implied or expressed is wholly untenable, that, in short, patients ought not to be left to a chance recovery when they can almost to a certainty be placed in security so far as life is concerned. The beneficial results offered by operation are not confined to cases where the disease is limited to the middle ear and mastoid cells, for on several occasions consecutive abscess in the brain has been successfully treated.

As regards the causes of inflammation of the petro-mastoid bone, it may be said that with few exceptions the affection is secondary to disease of the middle ear. Primary tubercular caries is comparatively rare, whilst syphilitic caries is much more so. Otitis media is usually the result of (1) some exanthematous

fever, notably, scarlatina and measles; (2) disease of the nasopharynx, such as ulceration and adenoid growths (here the morbid change is due either to the inflammation spreading in the continuity of the mucous membrane of the Eustachian tube, or to obstruction to the escape of secretion from the tympanum); (3) exposure to cold. According to Gruber, the various parts of the temporal bone are attacked in the following order of frequency:—1. The mastoid cells. 2. The roof of the tympanic cavity. Here the principal danger to be feared is extension of the disease to the middle fossa of the skull, with meningitis and abscess of the temporo-sphenoidal lobe of the brain as natural consequences. 3. The posterior wall of the meatus. In this case an abscess may form between the bone and the external ear simulating true mastoid abscess. 4. The plate of bone separating the mastoid cells from the lateral sinus, in which thrombosis of the sinus and cerebellar abscess are events to be feared. 5. The floor of the tympanum and posterior wall of the carotid canal. Coagulation in the vein and hemorrhage from the artery are possible sequelæ. 6. The petrous portion proper involving destruction of the labyrinth.

The above division is rather of pathological interest than clinical significance, for the disease is but seldom limited to the area first involved. I think it may be fairly said that few patients, the subjects of chronic mastoid suppuration, would lose their lives if the treatment were carried out on rational surgical lines, for even in the worst cases—providing, of course, that intra-cranial mischief and pyæmia have not commenced—a wide opening and free excavation of the bone, by relieving tension and affording a ready escape for discharge, are rapidly and surely followed by marked relief from symptoms which disquiet the surgeon and distress the patient. As regards acute cases, where dangerous and too often fatal symptoms supervene closely on abscess formation in the middle ear, there is less time in which to act, for blood-poisoning and cerebral mischief are apt to ensue early and develop with great rapidity. Sir W. Dalby says that in this division must generally be placed the unavoidable deaths. Whilst agreeing in the main with his opinion, my own experience leads me to believe that here, too, the mortality is far higher than it should be. Let us take, for example, a case of suppurative inflammation of the middle ear accompanying, or following closely in the wake of, scarlet fever. The tympanic membrane bursts and affords an exit for the pent-up pus. There is a temporary lull in the symptoms, the pain lessens, and the temperature falls. But soon the danger signals are full set again. What can the surgeon do more than use antiseptic injections, apply leeches, and carry out minor details, which together make up the orthodox routine of



treatment? If the mastoid cells are invaded, as they usually are, there is a resource left which ought at once to be employed—viz., to remove the outer plate of bone and break up the septal walls of the cells. I have practised this on several occasions, and always with complete success. There is no time to wait for fluctuation, œdema, or redness to manifest themselves externally, and there is no occasion for it. Deep-seated aching in the bone is always present; and, moreover, gentle percussion and even pressure with the finger, suffices to increase the pain even when the superficial soft structures appear, and are in reality unaffected. I cannot lay too great stress on this fact. In cases like the above one has to meet the liability to suppuration in the skull, thrombosis of the lateral sinus, and pyæmia. The disintegration of septic clot in the sinus is a common cause of embolism and metastatic abscess. Thrombosis of the lateral sinus is indicated, amongst other signs, by œdema and swelling of the side of the neck. Besides, the coagulation is apt to extend along the internal jugular vein, which can sometimes be felt as a solid cord. In such a state of affairs treatment offers little chance of success, but still it should not be abandoned in despair. Given a certain diagnosis of a septic thrombus in the sinus, I would not hesitate to lay it open. The liability to hemorrhage, immediate and secondary, must be kept in mind. Even should such a disaster happen, it would not be difficult to arrest the bleeding. I have seen the patent sinus entered by a trephine and the patient recover. Touching intra-cranial suppuration, I may here note that abscess in the brain from middle-ear disease is found either in the cerebellum or the temporo-sphenoidal lobe of the cerebrum. It is more common in the former situation, except in very early life, when the reverse obtains. The reasons why cerebral abscess is the rule in young children may be supplied, perhaps, by the following facts:—1. The petro-mastoid and squamosal bones only undergo ossific union during the first year of life. Prior to this, suppuration may extend with readiness from the middle ear to the cranial cavity, the pus making its way through the thin intervening plate of cartilage. 2. The mastoid process is not formed until the second year, and the mastoid cells are not developed before the age of puberty. Although the mastoid bone contains in the first years of life a soft, jelly-like tissue, which forms a favourable nidus for suppuration, the pus is not locked up, as it were, under pressure in bony cells. The least resistance is through the petro-squamosal suture and along the passage which transmits the large petrosal nerve. Relatively, too, I believe in very early life the plate of bone bounding the posterior fossa of the skull is thicker than that forming the roof of the tympanum.

I now proceed to discuss the principal complications of chronic disease of the petro-mastoid bone, and, first, I will treat of *facial paralysis*. From the long course the facial nerves take through the temporal bone, extending from the internal auditory meatus to the stylo-mastoid foramen, and from the fact that there is sometimes a natural breach in the wall of the Fallopian aqueduct on its tympanic aspect, it is somewhat curious that it so often escapes being implicated. Facial paralysis from ear disease is relatively a rare event. It must always be considered a significant one, since we see how readily the inflammatory process may extend along the nerve to the cranial cavity. Symmetrical paralysis from double ear disease I have not seen. Now and then the nerve on the side opposite the bone lesion is affected. This may result from basic meningitis, but far more frequently it is part of a hemiplegia from abscess of the brain. Whether arising directly from the bone disease, or at a later stage from meningitis, the paralysis is, as a rule, general in its distribution, and not seldom total in quantity. On the other hand when it participates in one-sided palsy of the body, the muscles of the upper part of the face may be expected to retain their power, wholly or partially.

Deep suppuration in the neck may owe its origin to disease of the middle ear or mastoid bone. An abscess forming external to the mastoid process may of course burrow widely and deeply, but I wish now to direct attention especially to a class of cases in which it commences at a greater depth. The local inflammation may extend either through the Glasserian fissure, in which event the temporo-maxillary articulation is very liable to suffer; or it may lead to perforation of the mastoid bone through the the digastric fossa. Here the pus, meeting with the juxtaposed occipital artery, is conducted by it to the carotid sheath, along which it spreads. It is prevented from coming to the surface by the superjacent muscles and dense fascia.

Recurrent external mastoid abscesses, in consequence of insufficient opening and drainage, may form at long intervals, the patient meanwhile remaining exposed to more serious complications.

*Necrosis of the posterior wall of the meatus* has a special significance, inasmuch as the fungating granulations—sometimes described as polypi—forming around the dead piece of bone block up the passage and hinder the escape of pus from the tympanum and mastoid antrum. So long as the sequestrum remains, although the granulations may be completely removed, fresh ones spring up very rapidly, the patient thus obtaining only a brief respite from pain. Through the kindness of my colleague, Mr. Field, I assisted recently in removing a piece of



loose bone from the ear of a lady, which had caused intense agony from the condition just referred to.

*Implication of the temporo-maxillary joint* is by no means infrequent in disease of the middle ear. It is usually associated with widespread affection of the mastoid. The inflammation extends through the Glasserian fissure or between the bone and the cartilage of the pinna. There is stiffness of the jaw, inability to open the mouth properly, and swelling over the head of the bone. Owing to the looseness of the articular capsule a quantity of fluid can be accommodated in the joint, and hence fluctuation is often obtained quite readily. It is of the greatest importance not to mistake an abscess working up by the side of the joint for synovitis of the latter. The former is diagnosed by the extreme throbbing pain and tenderness, and by the amount of swelling, which is more diffused than that from a distended capsule. Of course, inflammation of the joint may be purulent, in which case more or less permanent fixity is to be feared. If the synovitis has not passed beyond the stage of serous exudation, it mostly subsides very quickly after an adjacent abscess has been laid open.

*Sclerosing otitis of the mastoid bone* from chronic ear disease may prevent nature effecting an opening externally, and so increase the danger of suppuration spreading to the cranial cavity.—*The Lancet*, March 5, 1892, p. 519.

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## 77.—ON THE ABUSE OF MERCURY IN THE TREATMENT OF DISEASES OF THE EYES.

By E. LANDOLT, M.D., Paris.

Nothing is more difficult than to establish the effect which a drug may exercise upon the course of a pathological process. In the first place, two cases of the same disease are never identical, because the character of the disease varies with the individual. Moreover, among the innumerable circumstances which influence the evolution of the morbid process, there are so many which escape our observation, so many which we do not even suspect, that it is often impossible for one to have a clear notion, if a change arises in the course of an affection—especially a change for the better—whether it may be attributable to the so-called remedy employed, or to quite another cause.

There is much to be said upon this subject. In our great desire to ease our suffering neighbours, we too willingly share in their belief that for every malady Providence has provided a herb, a mineral, or some beneficial agent. And then we draw

from all the kingdoms of natural history, we even invent new substances, in the pious hope of finding for each ailment its own specific remedy. We are even sometimes so forcibly convinced of the efficacy of certain substances that we prescribe them almost instinctively, and the failing to do so would seem to us even a great fault. Yet, nevertheless, nothing establishes, in a sure manner, the beneficent power, or even any influence whatever, of drugs upon maladies which they are supposed to cure. For the same disease our ancestors have ordered, with similar zeal, quite another remedy, which makes us smile as our descendants will, without any doubt, at many a panacea which we believe in. The administration of the remedies has become a kind of auto-suggestion, a reflex action which is produced by the sight only of the pathological symptoms. Examples abound; it is useless to cite them.

Mercury is one of these remedies, and its use in ophthalmology tends to undergo an extension such as many certainly do not suspect. I have assisted for many years as an attentive spectator in these dangerous experiments, for the patients go from clinic to clinic, from one doctor to another. I observe the results of mercurial treatment, and I compare them with those obtained without it. I have refrained from speaking sooner because, as I have said, to give an opinion upon the effect of a drug is a very difficult matter. But now my convictions are formed, and I consider it my duty to communicate them. It is needless to say that in ocular affections engendered by syphilis the appropriate treatment for such a diathesis—and amongst others, mercury—is absolutely indicated.

Is it equally so of the atrophy of the optic nerves symptomatic of *tabes dorsalis*? If this disease depends upon syphilis, it represents such an advanced stage of it that mercury seems to me to have little chance of modifying it in any possible way. I never observed the least favourable influence from its use upon the degeneration of the optic fibres. This ought not to surprise anyone. Whoever has observed under the microscope the state of the optic nerves, the hyperplasia of the connective tissue, the degeneration, the disappearance even, of nerve tissue, cannot but be astonished at the fact of anyone dreaming of regenerating by means of mercury an organ already dead. There is even more than death of the optic nerve, since its very fibres have disappeared. If this is true for tabetic atrophy, it is still more so for all the other forms of optic atrophy. Mercury has absolutely no power over these. On the contrary, these unfortunate patients, already blind or threatened with blindness, are for the most part so weakened, through the want of exercise, by the malady which has given rise to the affection of the optic nerves, which forces upon them a state of dependence,



and also through the moral depression too easily appreciated, that everything which impedes their digestive functions or alters in any way whatever their well-being has a fatal influence upon their general condition as well as upon the state of their visual organ. We have, on the contrary, frequently observed that after a stay in the country, at the sea-coast, in favourable hygienic conditions, the power of vision declines less rapidly, remains stationary, or improves even in proportion as the general health improves.

Just as some administer mercury in the form of inunctions, pills, hypodermic injections, in atrophy of the optic nerves, so one sees it employed in affections, already of old date, of the retina and of the choroid; in retinitis pigmentosa, choroido-retinitis, and choroiditis disseminata with extensive atrophy of the uveal tract. The ophthalmoscope, revealing as it does the state of ruin of the choroid, the profound regeneration of the retina, one again asks how mercurial treatment could have the power of regenerating the rods and cones, the nerve-cells which are destroyed, and reestablish the delicate functions of the most delicate organ.

No doubt that, in the matter of therapeutics, *a priori* deductions, however logical they may appear, and good common-sense, however indispensable it may be for a medical man, are not sufficient to judge the value of a remedy. Experiment has the last word, and observation is the only judge, but the experiment has been made only too often, and observation has given the verdict. Mercury has proved to be quite useless. It is also inert in other affections in which the absorbent effect attributed to this metal seemed to give it a certain right to be tried. I mean the chronic exudative inflammation of different parts of the uveal tract—iritis, irido-cyclitis, serous irido-choroiditis. Except when these affections depend upon syphilis, mercurial treatment is at least superfluous, if it do not exercise a bad influence. In fact, these ocular diseases are met with almost always in cachectic persons, in children, young anæmic girls, badly nourished, living in deplorable hygienic conditions, in women with irregular menstruation suffering from leucorrhœa or from uterine troubles. The treatment of these affections, the raising of the general tone are here of the highest necessity, and this is obtained in a way far different from hypodermic injection or inunction of mercury.

I have never had recourse to this heroic form of treatment, and, moreover, in studying the reports of special clinics, in observing the patients who have been submitted elsewhere to treatment of this kind, I may assert that hygiene, combined if necessary with local treatment, and with a rational general medication directed against special lesions, always suffices to

bring about a retrocession of the morbid process, and to save the organ of sight. Is it necessary to cite examples? They abound. I cannot, however, refrain from relating, in a few words, the very significant history of a patient who by chance comes to see me just as I am writing these lines.

An English lady, aged sixty, consulted me in 1885 for an iritis, commencing in the left eye. In spite of the usual treatment this disease progressed, gained the other eye, and in both eyes took hold of the entire uveal tract to such a degree that the aqueous humour and the vitreous body became absolutely opaque, and impervious even to the light from the ophthalmoscope; the iris was dull, responded badly to mydriatics; the intraocular tension was sensibly diminished, showing the gravity of the lesion; and the sight (once normal) was reduced to a vague perception of light. The patient had never had syphilis, and she was of a good constitution, though of rheumatic and gouty tendency. The excessively serious state of the eyes continued from week to week, from month to month. Colleagues, the most competent and worthy of all confidence, recommended, nevertheless, an energetic course of antisyphilitic treatment. But the patient was strongly opposed to iodine, as well as to mercurial preparations. She contented herself with the hygienic rules which I had indicated to her, and a visit at a health resort beneficial to the gouty diathesis. Locally she employed mydriatics and poultices with a persistence and regularity worthy of all praise. She recovered completely and definitely without having taken a single grain of mercury; in fact, to-day I saw her for the first time for five years. Vision is excellent in both eyes; the dioptric media are perfectly transparent; there exist neither adhesions at the pupillary border nor choroidal exudations, nor even specks in the vitreous body. Nothing indicates the passage of the dreadful malady of which her uveal tract was the seat.

On another occasion a friend brought me his young wife. She had gradually lost the sight of her right eye in the space of a few weeks. It was scarcely possible for the patient to recognise the movements of the hand; a large portion of the retina was no longer functionally active, and produced a scotoma in the visual field. The ophthalmoscope revealed an optic neuritis of a most evident character, swelling of the papilla, serous exudation, in which the tortuous and gorged blood-vessels were immersed. I did not hide from the husband the gravity of the affection. I explained to him that it depended probably on a general disease, and that local treatment would not at all suffice, and I therefore sent him to the family physician. This colleague was a homeopathist; he gave infinitesimal doses of these remedies into which there does not



enter an atom of mercury. Along with this a state of hygiene, local and general, was strictly observed ; and at the end of six months the neuritis had disappeared entirely, leaving the papilla sensibly pale. Vision, direct as well as indirect, has become normal, and things remain in this state still.

I have mentioned these cases because they are those in which mercurial treatment would seem to be most indicated. But to speak of affections of the lachrymal passages, of keratitis, of scleritis of a nature absolutely non-specific, of separation of the retina, of intraocular hemorrhages—retinal or choroidal—of simple floating bodies, even in which the patient is exposed only too often to the grave troubles of mercurial absorption, it seems sufficient to point out this abuse to have it stopped. As for myself, convinced of the absolute inutility of this treatment in the diseases cited, I consider it an imperative duty on the part of the physician to protect those who intrust to him their health against an agent which, an invaluable remedy in some cases, becomes in others a veritable poison.—*British Medical Journal*, March 26, 1892, p. 650.

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# Obstetrics and Gynæcology.

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## 78.—ON RAPID EXPLORATION OF THE UTERINE CAVITY FOR DIAGNOSTIC PURPOSES.

By JAMES F. W. ROSS, M.D., Gynæcologist to the Toronto General Hospital.

I am firmly convinced that cases of obscure hemorrhage from the uterine cavity are in the main due to the presence of small, almost unrecognizable, fibroids. The finger in the cavity of the uterus is the only exact means of diagnosis we possess.

I have yet to meet with the first case of damaged appendages produced by rapid dilatation and exploration with the finger, done after the method about to be described. Tents I will not use, and I believe they should never be used. Gradual dilatation by means of elastic pressure I have used and found to be uncertain and troublesome. The dilator slips out of place and gives rise to a nasty discharge and much pain and restlessness. It can not be kept aseptic after it has been in the vagina for a few hours.

I frequently explore the virgin uterus with my finger, before my class at the Toronto General Hospital, in about twenty minutes after complete anæsthesia. Any one can do the same. I have yet to see any ill result. But to be successful one must have his dilator scrupulously clean, and the vagina and cervix must be thoroughly disinfected.

The pyosalpinx that is spoken of as a result of dilatation is as much the result of dirt as the gonorrhœal pyosalpinx is the result of the gonorrhœal organism, or as puerperal fever is the result of a septic finger.

The method of procedure is as follows: I wash my hands as scrupulously as if I were going to open an abdomen, and my assistant's hands are also thoroughly washed. The patient is placed upon her back, with her knees drawn up by a Clover's crutch, and the anæsthetic is given. A trivalve speculum is inserted into the vagina, and the vagina is thoroughly saturated with a 1-to-500 solution of bichloride of mercury. Goodell's dilator, taken from boiling water and cooled sufficiently, is then inserted into the cervix after the position of the uterus has been made out with an aseptic uterine sound.

The cervix is gradually dilated, and when the limit of the instrument (an inch and a half) is nearly reached, the blades are



allowed to fall together again so as relieve the tension for a moment and restore the circulation of the part. When the limit is reached this is also done, and the blades are again separated so as to make the dilatation as complete as possible. The dilator must be passed beyond the internal os ; this can be accomplished by steady, gentle pressure before the blades are separated.

The dilator is now removed, two double tenacula are fastened on to the cervix well up, and the speculum is removed. The uterus is now drawn down and the little finger of the right hand inserted into the vagina and into the cervix, with the thumb pointing toward the floor and the ulnar edge of the arm pointing toward the ceiling.

The finger will readily enter the uterus, and the interior can be thoroughly explored. In many cases the index finger can be used, but cases are met with in which an undue amount of force will be required to push in the first finger, unless the dilatation is carried on further, and more time is consumed. For the purpose of diagnosis the insertion of the little finger will be all-sufficient.

The uterine cavity is packed with iodoform gauze and the vagina is filled with the same material. The patient is kept in bed for several days, and the gauze is removed in forty-eight hours. The vagina is then refilled with gauze, and this is again left for forty-eight hours, when a cleansing douche is given.

The temperature frequently drops after the operation below normal, and may rise suddenly after to  $101^{\circ}$  for a little while. The pulse is rarely affected.

I have used tents and the elastic compression dilators. They are both superfluous. Those who are not worshippers at the shrine of aseptic surgery should never attempt this little operation. The germicides must be the very best we can procure, and no part of aseptic surgical precautions must be omitted. I had a case in which pelvic inflammation followed the simple introduction of a sound in my younger days, and I had a similar accident after an office dilatation some years ago. But no particular precautions were taken then.

Uterine dilatation should not be performed in the office or clinic unless the patient is prepared to remain overnight and for several nights. By such practice the operation is brought into disrepute. It is an operation that requires some skill. Surgeons can not all crush a stone in the bladder with equal skill, and they can not dilate and explore a uterus with equal skill. A short time ago I curetted a uterus after dilatation and exploration with the finger for a neighbouring physician. I asked him to introduce his little finger, owing to the rigidity of the internal os. He was not satisfied with this, but poked

away with his index finger, which was considerably larger, until I feared he would tear the uterus from the vagina.

The practice of making irritant applications—such as carbolic acid, iodine, etc.—after dilatation and exploration with the finger is to be condemned. Sufficient irritation has been produced for one sitting by the dilatation and manipulation, and such applications seem like adding insult to injury.

By this method of exploration I have diagnosticated in the past year cancer of the fundus, sloughing intra-uterine fibroid, fungous endometritis, and retained portion of placenta, and have explored in one case twice, with an interval of four months, with negative results.

I have dilated in many other cases, but do not mention them in this connection, because no digital exploration was required. They were chiefly cases of retroflexion and subinvolution.

Goodell has certainly given us the best and safest dilator, if used by experienced and gentle hands, and by an aseptic surgeon.

I am satisfied that the crusade against rapid dilatation or any form of dilatation has not been carried on without good cause. But uterine exploration by the finger is a necessity, and the rapid method with proper care is certainly the least likely to be followed by untoward results. There is a medium course in medical and surgical procedures that may fail to observe, and hence they run to extremes. They see only the evils of a surgical procedure, and, without trying to overcome them, they discard the procedure as something utterly bad.—*The New York Medical Journal*, October 24, 1891, p. 459.

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## 79.—ON THE TREATMENT OF ABORTION BY “CURETTING.”

By J. R. KELLY, M.D., F.F.P.S.G.

Perhaps the most troublesome cases of abortion are those in which the larger part of the ovum has already left the uterus, and where the presence of ovum remains, is manifested chiefly by the frequent recurrence of hemorrhage, and usually, also, by some febrile reaction. In these cases it is usually unnecessary to dilate the cervix for the admission of the finger. The offending material is usually small in quantity, and frequently adherent to the uterine wall. The better method of removal, therefore, is to clear the whole uterine surface by means of the curette, and to wash out the débris through the uterine catheter. This is the best treatment in all those later stages of abortion,



where the retained decidua is decomposing or causing hemorrhage, and where the patient is constantly on the verge of some serious septic infection, which may be manifested either as a local inflammation or as a general toxæmia. In such cases there is no need for further dilatation than merely to admit the passage of the curette, there being no large body in the uterus requiring a dilated cervix for its removal.

As this method of treatment by the curette is less known in this country than it ought to be, and as it is undoubtedly the best treatment for these cases, I may be allowed to describe it briefly.

It is not necessary to put the patient under chloroform, though, in some cases where she is timid or irritable, it may be advisable to do so. Whether anæsthetised or not, she should be put on a table, with her buttocks close to the edge, and her hips arranged almost as in the lithotomy position, the knees being carried well up over the abdomen and widely separated from each other. The vagina is then opened by a broad speculum, and the cervix brought down and fixed by one or two hooked forceps attached to one or both lips of the os uteri. Then, while a constant stream of carbolised or other antiseptic solution plays on the parts, the curette is introduced gently into the uterus, and systematically applied to the whole interior surface. The best curette to use is Martin's modification of Roux's. It is not blunt, and yet has no cutting edge: it is firm and reliable, and it can be guided exactly to any region where you wish to apply it. In the process of curetting, for example, it is not uncommon to find some special spot where irregularities on the surface indicate that something is still adherent there, and by this curette we can apply as firm a pressure as we please while scraping this spot, without any risk of the instrument bending under the pressure.

When we have satisfactorily scraped the whole interior, we ought carefully to wash out the cavity with antiseptic solution. If the case has been marked by hemorrhage, or if the uterine wall is much relaxed, this solution should be as hot as it can be borne—about 120° F.—and should be continued till the uterus has contracted firmly. A hot solution, indeed, is advisable in all cases, but I would utter a warning that if the patient is under chloroform we should be careful to ascertain its heat for ourselves, as in one case I was alarmed to find that the solution I used was so hot as to scald my patient, and though there were ultimately no bad effects, the accident naturally caused me a good deal of anxiety.

Besides this hot solution it is sometimes advisable to use an astringent and caustic application—like liq. ferri perchlor., or carbolic acid, or liniment iodi, if the case has been of long

standing and marked by distinct septic symptoms. This caustic may be introduced either on a Playfair's probe wrapped in cotton, or by the small Braun's syringe—15 or 20 drops being sufficient to act upon the whole surface desired.

I wish to press this method of treating abortion upon the attention of practitioners, and to recommend it as incomparably the best we yet know. It is easy of application and it is effective. It thoroughly removes the *materies morbi*, and leaves nothing to chance. In most cases there is no bleeding whatever after the operation is completed. There is no lochial discharge, seeing there is no decidua left to form lochia. If we did not consider it presumptuous, indeed, we might be tempted to say that after this operation the uterus is put in a better position than when it is emptied by the natural powers themselves. And I might conclude simply with the assurance that, if this treatment be adopted, it will be found thoroughly satisfactory. But there are three objections which have been brought against it, to each of which a few words of answer must be given.

In the first place, it is alleged that there is danger of perforating the uterus by the curette. But even with the softened wall of a pregnant uterus, I can hardly imagine anyone using violence enough to penetrate it with such a curette as this. After labour at the full time there is more risk of such an accident; but in the instances in which I have found the curette necessary after labour at term, I have been as fully satisfied with it as after abortions. Indeed, there is nothing in the results of therapeusis more gratifying than the immediate cessation of puerperal hemorrhage, putrid discharge, and pyrexia after the use of the curette and the hot intra-uterine douche in these cases.

In the second place, a fear has been expressed that by curetting away the uterine mucous membrane we may destroy the possibility of the woman again conceiving. Such a fear is quite natural, and can only be overcome by the result of experience. Of experience, however, there is now no lack to demonstrate that not only is conception possible after such curetting, but that the uterus is restored to the healthy state most favourable for its occurrence. I have myself had several cases in which women who had been subject to abortions have borne children at the full time after the use of the curette.

Thirdly, the objection is made that after curetting there is danger of pelvic inflammation. This is an actual danger in all uterine therapeutics, but it is also a danger which attends the process of abortion itself. It will be hard, in fact, if parametritis does occur to determine whether it is due to the treatment more than to the disease. In all cases, however, this danger will require us to use the utmost gentleness; and perhaps



of even more importance than gentleness is the strict observance of all antiseptic precautions. In my own practice I have had one case of parametritis *post-abortionum* in a woman who miscarried while her children were ill with scarlet fever, and in whom the curette had to be used. It would be wrong, I think, in this case to attribute the pelvic inflammation to the curette rather than to the other circumstances of the case.—*The Glasgow Medical Journal*, November, 1891, p. 325.

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## 80.—ON THE USE OF ELECTRICITY IN GYNÆCOLOGY.

By A. E. AUST-LAWRENCE, M.D., Obstetric Physician, Bristol General Hospital, and

W. H. C. NEWNHAM, M.B., Assistant Obstetric Physician, Bristol General Hospital.

Having worked at this subject for now four years, we are induced to put before the readers of the *British Medical Journal* our experience of it after giving it a fair trial. We shall not enter into the details of apparatus, etc.; this can be learnt from Apostoli's published works. We will simply state what we consider to be the value of the continuous current and of the interrupted current in the treatment of certain diseases peculiar to women.

We may state that the amount of knowledge of electricity that is required to carry out this treatment can be very easily acquired by anyone who is willing to devote a little time to obtain it from books and from conversation with electricians, but we consider that something more than a mere smattering of knowledge of diseases of women is necessary to avoid mistakes, which even with the most experienced will sometimes creep in. We have used the galvanic current over 500 times in 100 separate cases without any ill result, and in most of them with benefit.

*Myoma Uteri.*—The first set of cases we will take will be that of myoma uteri. We have used it for growing fibroids without bleeding, and for the same class of tumours with bleeding, for stationary tumours accompanied by bleeding, and for the same kind of tumours without bleeding but accompanied by pain. The results have been as follows: There has not been a very great reduction in the size of the tumours, but rapidly growing tumours have been checked in their growth in all instances except one. The bleeding has been lessened in a very marked degree by the intrauterine use of the positive pole. The pain

also has been lessened and in some cases removed entirely. The general health has been much improved, the feeling of weight has been removed to a great extent, and this out of all proportion to the diminution of the size of the tumour.

In a short paper like this we cannot quote details of cases. We simply give our opinion after working at the subject. We do not regard electricity as a means of cure or even of relief in all cases of myoma uteri; we regard it as a very valuable addition to our means of treating a very troublesome set of cases. Fibroids of the uterus have been often classified according to their position in the walls of the uterus; this to a certain extent is useful, but we are sure what is often of as much importance is the fact of their being accompanied or not by any other diseased pelvic condition, especially disease of the uterine appendages. An ordinary uterus will bleed most profusely in some cases when there is disease of the appendages; how much more so then will a fibroid uterus bleed when complicated with a similar disease? These cases we regard as least amenable to the electric treatment, and in all probability they require removal of the diseased appendages with the double result of removing diseased organs and bringing about the menopause.

The removal of the appendages does not always check the uterine hemorrhage. We have had placed under our care for electric treatment a patient from whom a very able surgeon removed both appendages; this young woman has had profuse uterine hemorrhage ever since the operation. We dilated the uterus and found a myoma situated in the anterior wall and bulging well into the uterine cavity. She has had two applications of electricity and the uterus is already much smaller, and the hemorrhage has lessened although it has not yet ceased entirely. We have followed the rules laid down by Apostoli, and can to a great extent verify his statements.

*Subinvolution.*—In ordinary cases of subinvolution of the uterus the intra-uterine application of the positive pole with a current of 50 milliamperes given once a week for three or four times has a very good effect, the uterus very rapidly undergoing involution. The cases do best where the enlargement of the uterus is the principal lesion; those cases complicated with endometritis are best treated by ordinary intrauterine medication and curetting.

*Dysmenorrhœa.*—In cases of dysmenorrhœa, due to a narrow condition of the cervix uteri, the intrauterine use of the negative pole causes at once a dilatation of the canal, which remains permanent, and removes the pain which was due to the stenosis. We know of no treatment so effectual for the relief of pain in these cases if the cause is simply a narrow canal.



Often these cases are complicated with tubal or ovarian disease ; if so, after dilating the canal with the galvanic current, the faradic current should be used for the relief of the other pain.

*Caustic Action.*—Destruction of diseased tissue is most easily effected by the negative pole either by puncturing or simply by touching. It is most useful in urethral cases, and in chronic inflammatory deposits in the pelvis, in order to assist absorption or to drain away pus, etc.

*The Faradic Current.*—Although relief of pain is very marked by the use of the galvanic negative pole within the uterus, yet the best agent for this purpose is the faradic current. To relieve pain by the faradic current it is necessary to attend to a few brief directions.

In a very large class of cases, all that need be done is to place one electrode over the sacrum and the other in the groin, and apply the secondary faradic current very weak to begin with, and gradually increase its strength as much as the patient can bear. In other cases one electrode may be placed in the vagina and the other in the groin. In another set both poles may be placed in the vagina, using the bipolar vaginal electrode. It is only by testing each case that it is possible to say which mode of administration will give the most relief.

The effects derived from the secondary faradic current in these cases, and used as we have described, are as follows :—

1. A marked diminution in the sensitiveness of the parts in the course of the current, and to which the electrodes have been applied. If it is a case of a painful and prolapsed ovary that at the beginning of the sitting cannot be touched without inducing great pain, it can be firmly pressed on at the end of the sitting without causing pain, and this condition will last some hours after the application. To obtain permanent relief, the application must be made night and morning for about ten days, then daily for about twenty more days ; at the end of this time, in the majority of cases the nerves in the painful organs or tissues cease to have the power of conveying pain, yet the organs or tissues still remain as they were before the electricity was used.

2. We believe the current does assist absorption of effused products, but of this we cannot be sure. Our principal object in using this form of electricity is to relieve pain, and in the majority of cases where a woman complains of pelvic pain, one can relieve her to a very great extent, and remove entirely in a large number of cases the pain she complains of.

This electrical treatment is of very great value in a class of cases where any aid is welcome ; treatment can be carried out so easily—any nurse can do it, or the patient can do it herself—and the expense is slight, as these batteries can be hired for a small sum.—*British Medical Journal*, November 28, 1891, p. 1143.

## 81.—ON THE TECHNIQUE OF VAGINAL HYSTERECTOMY.

By WILLIAM GOODELL, M.D., Professor of Gynæcology in  
the University of Pennsylvania.

The technique that I now prefer to follow is a blending of what seems to me to be the best points in Martin's and Olshausen's operations. The cervix is first thoroughly curetted and afterwards charred by Paquelin's thermo-cautery. The funnel-shaped excavation is next stuffed with iodoform gauze, and its lips are sewed closely together by a continuous suture. These precautions are taken to prevent contamination of the peritoneum from any uterine leakage. The vagina now gets a thorough cleansing with soap and water, and is swabbed out with a 1 : 1000 mercuric chloride solution. The woman being placed in the lithotomy position, and the vagina opened by a short duck-bill speculum and two retractors, the cervix uteri is seized with a double tenaculum forceps, dragged downward and forward, and Douglas's pouch opened. Aided by the forefinger of the left hand in the opening, quilted sutures of catgut, with intervening spaces between them, are passed, uniting the edge of the peritoneum to that of the posterior vaginal wall. In proportion as the incision is prolonged on either side up to the insertion of the broad ligaments, additional sutures are put in. The object of these is to stop all hemorrhage and to prevent the stripping off of the peritoneum during the subsequent manipulations. To protect the peritoneal cavity and to keep the intestines from protruding, a sponge or a roll of iodoform gauze, to which a strong thread is attached, is pushed up into the pelvic opening. To distinguish this thread from the numerous other ligatures, a small piece of gauze is tied to its free extremity. The cervix being now dragged backward and downward, a transverse incision is made across its anterior surface above the os, and the bladder is stripped off with finger and knife handle until the peritoneum is reached and opened. Here again quilted sutures are introduced to unite the peritoneum to the anterior vaginal wall.

By means of two aneurism-needles curved to the right and to the left, successive portions of the broad ligament on each side are tied and cut off from the womb; but the free extremities of the ligatures are, for the time being, left uncut. As the womb is thus gradually freed, it descends lower and lower, until, all its attachments being severed, it is extirpated. Sometimes this can be greatly facilitated by either retroverting or by anteverting the womb, and delivering its fundus either through the posterior or the anterior vaginal incision. This manœuvre is brought about by the fingers in the anterior



opening pushing the fundus backward, or *vice versa*. The fundus is then seized and drawn out by forceps, or it is hooked out by the old obstetric crochet, which has served me in good stead. Two fingers in the rectum will also give very material help. By this forward or backward displacement, as the case may be, the broad ligaments get a half-twist upon themselves, which not only narrows their width, thus lessening the number of ligatures needed, but which also places their upper and most distant portions within easy operative reach. Whenever possible, the ovaries and tubes should also be ligated and removed, because those organs are the next ones most liable to be attacked in progressive cancer of the womb, and may already contain cancer-germs, and because the woman should not be subjected to the annoyance of the now needless function of menstruation.

When the womb has been extirpated, the sponge tampon is removed, the free extremities of all the ligatures on the left broad ligament are seized with the left hand, and the stump on that side is drawn down below the level of the opening in the vaginal roof. To keep it in this position, it is sewed by one or two through cut-sutures to the corresponding extremity of the incision. The same thing is done to the right stump, and all the ligatures are cut off close to their knots. I ought to say that before this the ligatures—say those on the tube and ovary—lying too high to be made extra-peritoneal, are first cut off close to their knots. A strip of iodoform gauze for drainage purposes is now pushed up into the pelvic cavity through a small opening left in the vaginal roof, and the vagina is loosely packed with iodoform gauze. On the third or fourth day the bowels are moved, and after that both strips of the iodoform gauze—the drainage strip and the vaginal tampon—are removed. No kind of vaginal douche should be used for at least a week, and then only with great gentleness, for fear of tearing open the newly united parts.

When the vulva and vagina are ample, and the womb is not much enlarged, this operation is an easy one. But when opposite conditions exist, such as will be found in aged women, and especially in old maids, the operation is a very difficult one. It may, indeed, have to be abandoned, or be completed only by a resort to abdominal section.

Within the last six weeks I have three times performed the operation, in each case using catgut sutures. In two of the cases the operation was quite easy. In the third it proved tedious from senile narrowing of the soft parts, and from enlargement of the womb through cancer of its endometrium. In each the convalescence was so uninterrupted and so prompt as to be a surprise to me. The absence of all constitutional

disturbance, the freedom from pain, and the ability of the patient to turn from side to side at will, were in striking contrast to the ordinary features of an abdominal section.

Some years ago, before the days of vaginal antisepsis, I removed by vaginal hysterectomy, using silk ligatures, two wombs affected with cancer. One woman died within four days from the operation itself. The other perished within the year from a rapid return of the disease. Greatly dissatisfied with the immediate and remote results of this operation, I abandoned it. But very recently, indeed, after watching German operators and German statistics, I have become a zealous convert, and I now do not hesitate to assert that in a vaginal hysterectomy we have a most potent weapon against a most deadly disease.—*Medical News*, December 5, 1892, p. 642.

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## 82.—ON THE LYING-IN DECUBITUS.

By ALEXANDER DUKE, F.R.C.P.I., Ex-Assistant Master,  
Rotunda Hospital.

The dorsal position so constantly observed for several days after labour I hold to be a mistake for the following reasons:—

First, the soft and enlarged uterus (more especially when compressed by a tight binder drawn by all the force available of either nurse or doctor) must gravitate backwards and so favour the retention of the secretions instead of getting rid of them.

Secondly, in cases where any breach of surface exists (and which must have taken place unobserved during the process of labour) the dorsal position by retaining the discharges longer in contact with the most likely surfaces to be torn, viz., cervix uteri or perineum, may lead to septic absorption, and it is as well to bear this in mind before waiting for such symptoms to develop. And by changing the decubitus on the back (so often assumed by the patient herself, or advised by the nurse) to the lateral or preferably the semi-prone position, the secretions will be much more likely to leave the body more quickly, and thus not be liable to be absorbed by any torn surface, perineum, etc., which may chance to exist.

It is often a matter of surprise to observe the quantity of fluid held by the vagina (after syringing, for instance, when lying down). And when such fluid is of an abnormal character how important it is for the attendant to favour its exit by every means in his power.

Another disadvantage of the dorsal position is that a quantity of lochial discharge collects in utero, and is liable to find its



way into the patulous openings of the Fallopian tubes. The semi-recumbent position on the hip I have found useful, or the sitting posture for a few moments at a time, when the first twenty-four hours have passed, and I have remarked when this is done the process of involution proceeds more rapidly, the peristaltic action of the bowels becomes sooner re-established, and the lochial discharge ceases at an earlier date.

I consider that if every lying-in patient were to adopt the prone position directly after the birth of the child, the expulsion of the placenta would be hastened, and very probably its expression by hand seldom required. This would be in itself (in my opinion) a great advantage if we consider the squeezing and violent pressure backwards the uterus has to sustain during the process of "expression," frequently followed by the application of a tight binder.

Is it any wonder then that retroversion of the uterus has been traced (in some cases at least) to the aforesaid practice, combined with the mischievous habit of enforcing the dorsal position in addition on the lying-in patient for weeks after delivery, with the plausible idea of assisting the process of involution and preserving the patient's figure, when it was far more likely to produce an opposite effect. By changing the position each day as I suggest more perfect drainage of the parturient canal will be effected, and the uterus return to its normal size and position more rapidly. I trust, therefore, that a trial will be made of my suggestions by obstetricians if only for the reasons given.—*Medical Press and Circular*, February 10, 1892, p. 126.

### 83.—ON THE TREATMENT OF METRORRHAGIA.

By ARTHUR W. EDIS, M.D., F.R.C.P., Senior Physician to the Chelsea Hospital for Women.

Where uterine hemorrhage results from constitutional or general condition, it is not always wise to attempt to check it or repress it entirely, unless it is producing such an effect upon the system generally as to suggest the expediency of arresting it at all hazards.

In certain cases of heart disease, moderate uterine hemorrhage, in place of aggravating, seems often to relieve the cardiac symptoms, and should not, therefore, be hastily repressed. Such agents as bromide of potassium with strophanthus, digitalis, or aconite, relieve hemorrhage in these cases more than any other remedies. Iron is also very useful. If the liver seem to be at fault, attention to diet, abstention from alcohol, encouraging the action of the skin, and the administration of

a few grains of calomel or pil. hydrarg. or euonymin, followed in the early morning by a brisk saline aperient, will probably be indicated.

If albuminuria be present, or the kidneys seem to be at fault, encourage vicarious action of the skin and bowels by means of diaphoretics and purgatives, and treat the case upon its general merits.

The reliable remedies at our disposal for checking or arresting uterine hemorrhage are really very few. Ergot is unquestionably one of our most potent; combined with strychnine and cinchona its effect is often more evident. Whether given as liquid extract, infusion, ergotin in pill, or hypodermically, will depend upon individual experience and other circumstances.

*Hydrastis canadensis* is a valuable agent in many cases of fibroid, and is an agent apparently too little known.

*Hamamelis* or hazeline is useful in some cases. The ordinary astringents, such as gallic and sulphuric acid, have really very little influence in restraining hemorrhage, and are far too often relied upon. Quinine and strychnine, alone or in combination, will often succeed in checking or arresting hemorrhage in those cases where the system is much depressed from repeated or prolonged losses. Bromide of potassium in cases of hemorrhagic chlorosis, ovarian irritation, and even in hæmatocele, possesses the power of checking hemorrhage equal, if not superior, to that of any remedy we possess. Chlorate of potass and borax in combination with ergot are highly spoken of by some. *Cannabis indica* has also its advocates.

Where the loss has been very severe or protracted opium has a wonderful restorative effect. Given in combination with quinine or cinchona the benefit seems to be enhanced. The administration of iron should not, as a rule, be resorted to when any foreign body is suspected to be present in the interior of the uterus. It often serves to intensify the loss, and aggravates materially the condition of the patient. It is of much benefit in those cases of hemorrhage where, from antecedent anæmia, the blood has become so attenuated as to pass readily through the capillaries, and in certain cases of profuse loss from the presence of intramural fibroids.

As regards local remedies, the hot vaginal douche, at a temperature of 110° F. to 115°, is often of service. Absolute rest in the horizontal position, preferably in bed, is indicated in all severe cases. The application of carbolic acid on a Playfair's probe to the cervical canal, and even the cavity of the uterus, in suitable cases, may check hemorrhage for a time. I have even seen instances where free scarification of the cervix uteri, by lessening uterine congestion, succeeded in arresting hemorrhage where ergot was useless. Where uterine hemorrhage



persists, no assignable cause for it—such as malignant disease of the cervix, fibroid, inversion, or pelvic hæmatocele—being detected, and ordinary remedies have been tried and failed, we should, without further delay, dilate the cervix and explore the interior of the uterus.

Numerous instances have been recorded of patients dying from uncontrollable hemorrhage where a post mortem examination revealed the existence of some intrauterine growth, such as a polypus or submucous fibroid, retained product of conception or fungoid condition of the endometrium, which could readily have been removed had appropriate measures been adopted in time, and the patient's life thus saved. Plugging the vagina is a very useless and unscientific procedure, and should never be relied upon. The mere fact of inserting a laminaria or carbolised sponge-tent into the cervix uteri arrests the hemorrhage for the time being, and facilitates subsequent exploration of the uterine cavity. As to any risk of reflux through the Fallopian tubes, it is merely visionary, provided, of course, only appropriate cases are selected.—*British Medical Journal*, March 26, 1892, p. 649.

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#### 84.—ON THE TREATMENT OF DISEASES OF THE FALLOPIAN TUBES.

By T. MORE MADDEN, M.D., Obstetric Physician to the Mater Misericordiæ Hospital, Dublin.

For several years past I have, in the first instance at least, treated a considerable number of cases of pyo and hydro-salpinx by aspiration and other conservative measures. This treatment, even if not as certain in its radical curative results as salpingotomy, is certainly quite as successful in that class of cases to which its employment should be restricted, and at least contrasts favourably as far as facility of performance and safety from danger with the latter operation which in other cases or after its failure may become no less expedient. Hence I shall venture for an instant to dwell on the details of the less serious method, which, as I believe, will in not a few instances be found to afford satisfactory results whenever tubal collections are accessible per vaginam. In the first place, the patient should be put under some anæsthetic and placed in the ordinary left lateral gynæcological position. Then the operator introduces the index and first fingers of his left hand through the sphincter ani upwards and forwards along the outlines of the posterior uterine wall, the fundus being pressed down by his assistant's hand over the hypogastrium. In this way the tubes and ovaries can be readily palpated, and if there be any inflammatory or

cystic enlargement of the former it may be distinctly recognised as a tortuous, elongated, or sausage-shaped or rounded fluctuating tumour, extending, as Dr. Wm. Duncan says, "from the side of the uterus outwards to the broad ligament and backwards into Douglas's fossa." Having thus ascertained the position of the pyo or hydro-salpinx, the next step is to carefully introduce per vaginam on the point of the right index finger a long fine needle affixed to the aspirator up to the roof of the posterior vaginal *cul-de-sac*, through which it is to be passed into the retro-vaginal fossa, and thence guided by the operator's left index from the rectum up to the most prominent presenting part of the tubal swelling, into which it is to be plunged. The tap of the aspirator is then to be turned, so as to give exit to the contents of the dilated tube, the expulsion of which may be assisted by the steady pressure of the assistant's hand from about the hypogastrium down into the pelvic cavity, and continued until the tube is completely evacuated. After this the vagina should be rendered aseptic by insufflation with iodoform, and then no further local treatment beyond hot water irrigation will generally be required, unless the tube should, as sometimes happens, again fill, though probably to a lesser extent, when the same procedure may be again and again, if necessary, repeated until the oviduct has become reduced to its normal size.

*Curetting Fundal Orifice of Tubes ; Treatment by Electricity.*—Apart from malignant and other degenerative changes, the most common immediate cause of cystic accumulations in cases of chronic salpingitis is mechanical obstruction of the uterine orifice of the oviduct, due either to chronic follicular endometritis, flexion, or, in some instances, supra-involution of the uterus. Under such circumstances the tubal obstruction is most likely to be relieved by dilatation followed by curetting of the diseased proliferating endometrium in the first instance, or by the rectification of the flexion in the second, and by faradisation in the last-named cases. The faradic current has, moreover, not only in these, but also in other forms of chronic salpingo-oöphoritis, been in some instances successfully employed by Dr. Apostoli, of Paris, who generally employs in such cases the faradic current of tension applied in moderate doses and for only a few minutes at a time, for which he claims the most remarkable curative results in such cases. Another recent authority on this subject—Dr. Milne Edwards, of Edinburgh—does not believe, however, that the galvanic current is suited to cases where there is definite organic change in the ovaries, but considers that here faradism may possibly be of service.

*Removal of Uterine Appendages.*—In those graver and, as I hope may yet be found by others of higher authority than



myself, somewhat more exceptional cases than is generally supposed, in which, from the extent of Fallopian disease, or from the implication in its course of adjoining structures, the urgency of the symptoms attending its progress or other causes, it becomes impossible to deal satisfactorily or safely with such cases by the methods already referred to, and in which more active surgical intervention is obviously indicated, there then only remains for our adoption the complete removal of the uterine appendages.

The operation has, however, now come into vogue under other circumstances than these, being supported by a large number of modern gynæcologists, as not only the most efficient, but also, in the cases in which it is required, the safest method of dealing with the tubal diseases referred to; and hence the procedure which should be generally adopted in such cases. This doctrine, I cannot, myself, altogether unreservedly accept, believing, as I do, that in some instances the results of salpingitis are curable without any active treatment, and that in other cases they are amenable to the minor measures I have described. Nevertheless, in this hospital and elsewhere I have met with cases in which the only apparent alternatives were either the speedy death of the patient from Fallopian-tube disease or else the complete removal of the affected appendages, by what is generally known as "Tait's operation."

The immediate successful results now obtained from the removal of the uterine appendages in the majority of cases, and the very small mortality consequent on its performance in suitable cases has been proved beyond any possibility of question. Of the ultimate curative results of removal of the uterine adnexa, however, a less hopeful view is taken by some authorities whose opinions on this subject are no less entitled to consideration.

I, therefore, think that, without in any way questioning the necessity for these operations in many instances, or the success and small mortality which has attended their performance in the hands of a few distinguished surgeons, the great body of medical practitioners who occasionally must meet and deal with cases of Fallopian-tube disease, should be very slow to adopt operations the success of which can only be assured by exceptional skill, and that even where the circumstances of the case preclude the possibility of transferring the responsibility to those possessing that capacity, they should, before attempting to imitate their practice, at least fairly and fully try the less heroic but yet often successful methods of treatment to which I have already alluded.—*Dublin Journal of Medical Science*, January, 1892.

Addenda.No. 85.—ON ACUTE HODGKIN'S DISEASE.

By J. DRESCHFELD, M.D., F.R.C.P., Physician to the Royal  
Infirmery, Manchester.

[The following excerpt is taken from a clinical lecture.]

Hodgkin's disease, or pseudo-leucocythæmia, runs, as a rule, a more or less chronic course, and the diagnosis—specially of that form in which the superficial glands are chiefly affected—is easy enough. Occasionally, however, it may run an acute, and sometimes a very acute, course, and the superficial glands may not become involved, then the diagnosis is not so easy. During the last few months several cases of acute Hodgkin's disease have been in the wards of the Manchester Infirmery. (Dr. Dreschfeld gives the records of three cases, only one of which is reproduced here.)

J. P., aged twenty-three, repairer of gasholders, was admitted into the infirmery on February 19, 1891, and died five days after admission. The patient had been strong and vigorous, and enjoyed good health till his present illness came on, about a month before admission. He had always been temperate, and had not had syphilis. About four weeks before his admission into the infirmery he commenced to cough, and was troubled with pain across the chest; he, however, went on with his work till January 31, when he had a rigor lasting more than an hour, and pain in the right side of the chest; the cough became worse, and he began to expectorate muco-purulent masses; it was also noticed by his friends that he looked very pale, and was getting much thinner.

On admission the patient was found very anæmic and somewhat emaciated; the skin was dry; there were no enlarged superficial glands, no œdema of the extremities, no hemorrhages; the temperature was 100·4° F. The physical examination of the chest showed no asymmetry; the right side expanded more than the left; the breathing was hurried and laboured, thirty-six per minute; on percussion of the chest, slight dulness was made out over the upper part of the sternum and adjacent right side, from the first to the third intercostal space; the breathing in front was vesicular, with prolonged expiration on the right side, and numerous rhonchi were heard on both sides. The examination of the back of the chest showed dulness, with diminished fremitus and diminished breath sounds on the left side, and subcrepitant *râles* over the right base. The breath sounds over the right apex behind were weaker than those over



the left apex. There was slight expectoration of muco-purulent nature. The voice was hoarse. The apex beat was not visible, and could only be faintly felt in the fifth intercostal space, about half an inch to the right of the nipple; the area of cardiac dulness appeared diminished; the heart sounds were normal but very weak; the pulse was frequent, 120 per minute, small, regular, very compressible, and dicrotic; the pulse in both radials was equal. The blood was pale, the leucocytes increased—one leucocyte to about forty red blood corpuscles; most of the leucocytes were small, mononuclear; there were a few large ones with large granular nuclei, and when stained with eosin and afterwards with hæmatoxylin—after Ehrlich's method modified by Müller—a few eosinophilous cells were found. The tongue was covered with thick, brownish fur, the gums pale, not spongy, the abdomen normal in appearance; there were no enlarged superficial glands; the liver was normal as regards its dimensions: the spleen was found somewhat enlarged in its vertical diameter; there was anorexia; no nausea or vomiting; the bowels were confined. The nervous system presented nothing abnormal. The urine was acid, specific gravity 1018; it was pale, and had a deposit of urates, which, owing to the want of colouring matter, was only very slightly tinged pink; it was free from albumen and sugar.

The diagnosis was acute Hodgkin's disease with leucocytosis and left pleurisy. The diagnosis was based on the presence of mediastinal growth, of the profound anæmia, pyrexia, and of the enlargement of the spleen. The leucocytes of the blood were increased, but not to such an extent as is found in leucocythæmia, and the presence of Ehrlich's eosinophilous cells I have noticed before in cases of undoubted Hodgkin's disease. Considering that there were no other glandular enlargements besides the mediastinal growth, and that the spleen was after all not so much enlarged as to be felt, I looked upon the increase of leucocytes as due to an acute leucocytosis, and could not regard the case as one of acute leucocythæmia, to which disease, as in a case recently described by Ebstein, it bore some resemblance.

The treatment consisted in small doses of liquor Fowleri, and of aromatic spirits of ammonia with ether. The patient became rapidly worse, the pulse became quicker and feebler, the dyspnœa became more troublesome; the temperature ranged between 99·5° and 100·5°; the patient became slightly delirious, and died on February 27th.

The post mortem examination verified the clinical diagnosis. The left pleural cavity contained about a pint of clear serum, and in the anterior mediastinum was found an oval, whitish mass, uniform on section, somewhat firm in consistence, closely

adherent to the large vessels and the pericardium ; in the lobes of the liver a similar mass was seen, and both kidneys contained numerous whitish tumours ; the spleen was enlarged, and weighed 16 oz. ; on section it was found to be firm, the trabeculæ well marked, but no deposits were seen ; the liver was anæmic, but showed no other alterations. The medulla of such bones as were examined (sternum, ribs, femur) showed no changes. Microscopically examined the tumours showed the appearance of lymphosarcomatous tissue ; besides small round cells, larger round cells with large nuclei and large endothelioid cells were found, whilst the reticulum presented tracts of coarse fibres and finer fibrillæ ; at the periphery of the tumour the cell elements preponderated, and around the small vessels were masses of leucocytes, like small inflammatory foci. Examined for micro-organisms with various stains, sections of the kidney showed at the periphery of the tumour masses, close to the small-celled foci, numerous small bacilli in and around the glomeruli, and sometimes forming small thrombi in the glomerular capillaries. Some of the tumour placed in nutritive media for the growth of micro-organisms gave only negative results.

That all the cases were acute cannot be doubted. All three patients enjoyed good health, and were able to follow their work till a few weeks before death ; in all of them the symptoms commenced somewhat suddenly with pain, weakness, pallor, loss of appetite, and pyrexia. It is probable from the somewhat firm nature of the intrathoracic growths in the first and third cases, that these local tumours had been in existence for some time, and that from the acute onset the disease became general.

From the cases above related, and from the references to similar cases scattered about in various medical publications one may classify acute Hodgkin's disease or acute pseudo-leucocythæmia into various types, corresponding to the types of chronic Hodgkin's disease, namely, one type in which the superficial glands are found enlarged ; a second type in which the intrathoracic glands are prominently affected, the superficial glands showing no change—this type is well illustrated in the case mentioned, and a third type where the prominent symptoms refer to an affection of the abdominal organs and intra-abdominal lymphatic glands.

The classification just given may be found useful and convenient as a clinical distinction ; it will be noticed however, that though one set of glands are much more affected than others, yet the affection is general, and metastatic deposits may be found in the various organs. Common to all the three types are also profound anæmia, emaciation, hemorrhages from the mucous membranes and in the subcutaneous and subcuticular tissue, and occasionally retinal hemorrhages and pyrexia, which



may have the hectic type or the somewhat characteristic chronic intermittent type of Gowers and Ebstein, that is, periods of pyrexia alternating with apyrexial periods. Splenic enlargement which is described as a common feature in chronic Hodgkin's disease, was present only to a limited extent in our cases, and from my own observation of cases of chronic Hodgkin's disease I am inclined to think that this symptom does not occur so frequently as is taught in textbooks, and that it is only found when metastatic deposits occur in the spleen, when certainly the spleen may reach an enormous size. The examination of the blood shows in acute, as in chronic Hodgkin's disease, no constant changes. The red blood corpuscles are diminished in number, microcytes and poikilocytes are present in varying proportions; nucleated red blood corpuscles I have not been able to detect; the leucocytes are increased, sometimes to no greater extent than in cases of profound anæmia or in cases of acute pneumonia, or some of the acute zymotic diseases at other times, there may be marked leucocytosis; the leucocytes found were small and mostly mononuclear. Ehrlich's eosinophilous cells, which are found so often increased in leucocythæmia, I have examined for in our cases of acute and chronic Hodgkin's disease, and have found them in fairly large quantities in some cases, though in the majority they were only sparingly found.

As regards the diagnosis of acute Hodgkin's disease, I may be brief after the observations just made. Where the superficial glands are chiefly implicated the diagnosis is easy. From acute adenitis the disease is distinguished by the multiple appearance of the glandular enlargement, the absence of pain in the glands, or of inflammatory signs in the adjacent tissues and the presence of the general constitutional symptoms. From acute tuberculous affection of the glands it is differentiated by the rapid enlargement of the glands which remain freely movable, and do not suppurate or undergo caseous degeneration. Other primary malignant tumours of the superficial glands, such as sarcoma, endothelioma, are of very rare occurrence, and do not appear at once in a multiple form. From acute farcy the history of the case and the absence of any local symptoms in the nasal passages form the chief diagnostic points. When the intrathoracic glands are involved—the second type of the classification given above—the recognition of the disease is equally easy. We have, however, to bear in mind that there may be some enlargement of the glands without any physical signs or pressure signs, and, on the other hand, slight sternal dulness may exist, which is not due to any intrathoracic tumour. The general symptoms, such as the anæmia, and especially the appearance of hemorrhages and the peculiar pyrexia curve, will assist us in the diagnosis.

The diagnosis of the third type, where the abdominal glands are principally involved, is not so easy. The disease may here simulate typhoid fever, acute tuberculous peritonitis, or tabes mesenterica, pernicious anæmia, purpura, or septicæmia; for the mesenteric and retroperitoneal glands are not sufficiently enlarged to be made out by palpation, the enlargement of the spleen is seen in pernicious anæmia as well as in typhoid, and hemorrhages may occur in pernicious anæmia, in septicæmia, and in typhoid. Thus a case was admitted into the fever hospital as typhoid fever, there being marked pyrexia, hemorrhage from the bowels, and enlarged spleen. The patient died a few days after admission, and the case proved to be one of acute Hodgkin's disease; the mesenteric glands were principally affected, and the lower portion of the bowel infiltrated with similar masses. Another patient was admitted into the infirmary some months ago as a case of purpura; the temperature of the patient, however, had the peculiar intermittent type, and the post mortem examination showed numerous lymphosarcomatous deposits in the intra-peritoneal and mesenteric glands. Again, to pernicious anæmia, as already mentioned, this form of Hodgkin's disease bears a close resemblance; the differential diagnosis must depend upon careful examination of the blood, which in pernicious anæmia shows a marked decrease of the red blood corpuscles, whilst the hæmoglobin is not diminished in the same proportion, and the examination of the urine, which was high coloured and shows the presence of urobilin, and the character of the temperature curve, which, in pernicious anæmia, as a rule, shows a subnormal temperature. Further, pernicious anæmia is usually more chronic; and though the patient is very anæmic from the first, the emaciation does not occur till late on in the course of the disease. Lastly, the compression of organs by the enlarged glands may give rise to symptoms which obscure the diagnosis: thus we may have obstinate vomiting from compression of the stomach, constipation from compression of the lower bowel, ascites with or without jaundice from pressure by glands in the hilum of the liver, and, in one case, symptoms of compression of the spinal cord were produced by a mass of retroperitoneal glands which had infiltrated the vertebræ, and caused compression of the cord, with all the signs of spastic paraplegia.

The prognosis of acute Hodgkin's disease is most unfavourable. The patients die either from exhaustion, or, where there is a large intrathoracic growth, death often takes place suddenly, or the patient dies from some complication, such as pneumonia, pleurisy, or acute phthisis. The disease not always being fatal.

The treatment of acute Hodgkin's disease is the same as that for chronic Hodgkin's disease—rest, light and nutritious diet,



the administration of arsenic in gradually increasing doses, iron and other tonics, and iodide of potassium. From the good effects which I saw in one case I would also recommend mercurial inunction, though of course taking care not to produce salivation or any of the signs of mercurialism.

To sum up what our own researches have led us to believe, we may adopt the following classification :—

1. Acute Hodgkin's disease—better termed acute lymphosarcomatosis—a general infectious disease of specific type, which may follow a local focus or may be general from the first.

2. Chronic Hodgkin's disease, which includes (*a*) a form of disease of the same features and nature as the acute form, but which is chronic in its course, and (*b*) a form allied to leukæmia, and which may therefore aptly be termed chronic pseudo-leukæmia, which presents more a hyperplasia of the blood-forming organs, and of which there may be, as in leukæmia, a lymphatic, a splenic, and a myolegenic type, though the independent existence of the two latter forms has not yet been clearly established.—*The British Medical Journal*, April 30, 1892, p. 893.

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#### 86.—A SUCCESSFUL CASE OF ILEO-SIGMOIDOSTOMY (SENN'S METHOD) FOR INTESTINAL OBSTRUCTION DUE TO MALIGNANT DISEASE.

By H. LITTLEWOOD, F.R.C.S., Assistant Surgeon to the General Infirmary at Leeds.

The following are the notes of the case :—G. F., aged thirty-five, was admitted to the Leeds Infirmary on March 17, 1891, under the care of Mr. W. H. Brown, with marked symptoms of intestinal obstruction. The patient said that since Christmas he had had a good deal of pain in the right iliac region, and for the last three weeks he had been unable to work. Three days before admission vomiting commenced, and continued at intervals ; no motion or flatus was passed during this interval. On admission the patient was very ill, suffering from severe spasmodic attacks of abdominal pain and frequent vomiting. The abdomen was distended. The intestines could be seen distended and moving beneath the abdominal wall. The whole of the right side of the hypogastrium was dull. Before admission the patient had a small dose of morphia. Soon after admission the bowels were well opened. An enema was given, followed by another good evacuation. After this the patient was much better, vomiting and pain ceased. He left the Infirmary on March 17.

He was admitted again on August 14 with well-marked intestinal obstruction. At no time since leaving the Infirmary had he felt really well. He had had occasional attacks of vomiting and constipation, often complaining of pain after food. He had seldom been able to work more than two or three days at a time. Latterly the attacks had increased in frequency and severity. The bowels had not been opened for the past five days; he passed flatus a few times during this period, and vomited frequently. On admission the following note was made:—"Patient looking very ill; not much collapsed. Temperature  $98.4^{\circ}$ ; pulse 100. Abdomen distended; resonant. Except low down in the flanks, coils of distended intestine can be easily seen moving (sometimes violently) through the abdominal parietes at frequent intervals. The movements can be easily excited on palpating the abdomen. No tumour can be seen or felt in any part of the abdomen. Complaints of a griping intermittent pain, radiating all over the abdomen. Between the attacks of pain there is merely a feeling of distension." Since admission he has vomited several times; the vomit has not been feculent at any time. He has not passed any blood or pus per anum. Nothing felt by rectal examination. Soon after admission I saw the case with Mr. W. H. Brown, under whose care the patient had been admitted, and we agreed that as enemata had answered so well on a former occasion they should again be tried. Mr. Brown, going away the next day, handed the case over to my charge. A gravitation enema of a pint of warm olive oil was given; this was soon followed by a good evacuation, after this a simple enema was given, with good results.—August 15: Feels much more comfortable; pain and distension much less; vomiting has ceased.—19: Has been feeling more comfortable; still some distension of abdomen. No vomiting; bowels opened by enemata.—23: During last few days patient has not been quite so comfortable. Some feeling of nausea; bowels opened by enemata. Abdomen still distended; patient has a feeling of general abdominal discomfort. Sometimes movements of the bowels can be seen, and to-day can be easily excited by abdominal palpation. At a consultation with a majority of the surgical staff the general opinion expressed was that the case was one of intestinal obstruction due to malignant disease of the colon, probably at the upper part of the sigmoid flexure. Abdominal exploration was advised, with a view of removing the growth if possible; if not, to stitch the bowel above the obstruction to a part of the collapsed bowel below.—24: The patient being under the influence of ether, with the assistance of Mr. Moynihan, the resident surgical officer, I operated by making an incision three inches long in the middle line between the umbilicus and pubes,



going through the edge of the right rectus. All bleeding having been stopped, the peritoneal cavity was opened to the same extent. There was some fluid in the peritoneal cavity. The small intestines were very much distended, some parts of the ileum being as much as two inches in diameter. They were injected. Cæcum and ascending colon distended. Transverse, descending colon, and sigmoid flexure collapsed. A large mass of growth about the size of an orange was found situated in the hepatic flexure and fixed. Mr. Mayo Robson, who was present at the operation, after having examined, agreed with me as to the inadvisability of attempting removal, and thought with me the best plan of treating the case would be to stitch the lower part of the ileum to the upper part of the sigmoid flexure. This I did by first pulling a loop of ileum out of the abdominal wound, emptying it of its contents, then surrounding it with a piece of indiarubber tubing. The same was done to a loop of sigmoid flexure. An incision about one inch long was made in the convex surface of each. Senn's decalcified bone-plates were inserted and secured in the usual way. Four extra silk sutures were then put in round the margin of the plate, on the convex surface of the two pieces of bowel, to give a little extra security. The bowels were then replaced in the abdominal cavity, the cavity carefully wiped out, and the abdominal wound stitched up in three layers—peritoneum, muscles, and fascia, and skin.—26 : Patient feels very well. Has passed flatus; no vomiting; temperature normal; less distension of abdomen.—28th : Patient still feels very well. Had bowels moved to-day. Sits up in bed.—September 1st : Has improved since last note. Dressed to-day, wound quite healed: no distension of the abdomen. One of the bone-plates has passed per anum to-day.—5th : Still improving; bowels acting regularly.—7th : Patient feels very well; has been up to-day—*i.e.*, fourteen days after operation.—10th : Improvement maintained; appetite good.—12th : Says he feels perfectly well.—16th : Left Infirmary to-day—*i.e.*, twenty-three days after operation. Temperature  $100.2^{\circ}$  on the mornings of the 25th and 26th. Temperature  $99.4^{\circ}$  on the evening of the 27th, and after that normal.

*Diet.*—For the first five or six days after the operation he was fed chiefly on milk and Benger's food. Had fish on August 31st, chicken on September 3rd, chop on September 4th, ordinary diet on September 7th. Patient was shown at the meeting of the Leeds and West Riding Medico-Chirurgical Society on October 9th; was apparently very comfortable; no abdominal distension; bowels opened every day, A few days after this he went to work as a miner.

The case described above is an additional demonstration to the cases already recorded of the possibility of treating intestinal

obstruction by establishing a communication between the distended bowel above the obstruction and the collapsed bowel below, and so cutting off the obstructing portion from the intestinal tract. We owe to Senn an enormous debt for this great advance in the treatment of intestinal obstruction, and, considering his paper was read in September, 1887, at the International Medical Congress at Washington, it is very remarkable that up to the present time only four cases have been recorded of this method having been used for the treatment of intestinal obstruction. Two were performed by Senn, one by Mr. F. B. Jessett, and the other by Mr. Reeves. They are referred to in a letter by Mr. Jessett in *The Lancet* of February 21, 1891. Similar operations have been performed for other causes in several cases—*e.g.*, injuries, pyloric obstruction, etc. This case differs somewhat from the other recorded cases in that the intestine was not divided, but a simple lateral anastomosis made. In Senn's two cases the growth was first excised: in the other two the operation of lateral implantation was performed; all of them necessitating a division of the intestine.

Before we were acquainted with this method, the treatment of cases of intestinal obstruction requiring surgical interference might have been arranged into three classes:—1. Those in which some definite obstruction was found and was relieved by operation. 2. Cases in which the obstruction was found and could not be removed, an artificial anus being made. 3. Cases in which, after a prolonged search, either the obstruction was or was not found, the patient dying of shock. It is for the treatment of such cases as occur in Classes 2 and 3 that Senn's method offers such advantages. In Class 2 the artificial anus is obviated. In cases belonging to Class 3, if the obstruction cannot be found after a reasonable time has been expended in the search, then lateral anastomosis offers the best chances of a successful termination. From assisting at a large number of cases of abdominal sections, it has always struck me that time is a very important element in the success of a case. By this method there is a great saving of time. With a little practice on the cadaver, or having seen or assisted at the operation, it can very quickly be performed (in about ten or fifteen minutes). I have ventured to suggest a modification of Senn's plates, with the idea of (1) doing away with the four stitches attached to the upper and lower margins of the apertures of the plates, which perforate the whole thickness of the intestinal walls; (2) of performing the operation more quickly; (3) of ensuring a good opening between the two pieces of intestine. The plates have been made for me by Messrs. Maw, Son, and Thompson. The suggested modification is to fix a tube of decalcified bone into the aperture of one of the plates. This



should be made to accurately fit into the aperture of the other ; by this method the two plates could be held together, and the two parts of the intestinal walls between them brought evenly into contact with each other. It might be well to have a piece of fine silk attached to each of the ends of the apertures, so that by tying them together greater security would be made. The intestinal walls around the margins of the plates should be attached by a few sutures.

In a very interesting paper by Dr. Halsted, of Baltimore, a method of lateral apposition by sutures is described. He insists very strongly on the importance of including some of the submucous layer of the intestinal wall in these and all suturing operations of the intestine. I am sure it is very important to recognise this observation, but cannot help thinking the bone plates will have the advantage over any method of suturing, owing to their simplicity and the time saved in using them.—*The Lancet*, April 16, 1892, p. 864.

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## 87.—ON THE SURGICAL TREATMENT OF GASTRIC CANCER.

By JOHN LINDSAY STEVEN, M.D., Pathologist and Assistant Physician to the Glasgow Royal Infirmary.

[The following remarks are based upon an analysis of nineteen cases of cancer of the stomach which were subjected to post mortem examination in the Glasgow Royal Infirmary during the last two years.]

It may be frankly admitted that cancer of the stomach in some cases can be successfully removed by surgical operation, and the patient's life thereby prolonged in a few instances. The work of Billroth and other surgeons has abundantly proved this, and for a very full and exhaustive account of the operative work that has been done in this department of surgery I would refer to the book entitled *Traitement Chirurgical du Cancer de l'Estomac* (*Gastrectomie, Gastro-entérostomie, Opérations Diverses*), quite recently published by Dr. Guinard, of Paris. What we have really to determine, however, is whether the radical surgical treatment of gastric cancer (that is, the actual removal of the tumour) is likely in the present state of our knowledge and practice soon to take rank as a therapeutic procedure, which could be regarded as affording hope of a generally successful issue in the ordinary run of cases. I am afraid that we must regard the operation of pylorotomy as still in the experimental and tentative stage of its existence, notwithstanding the

phenomenal success of Billroth and his pupils. I agree with Dr. Guinard, whose exhaustive inquiry into the recorded results of such operations has led him to say that "there is not at present any operation which can insure the cure of cancer of the stomach." Physicians are often reproached by surgeons for not sending their cases of cancer of the stomach for operative treatment early enough. As a physician, I am not altogether inclined to rest quietly under the reproach. It must always be a matter of the very greatest difficulty and anxiety to determine the earliest moment at which it would be right to resort to operative interference. Of course I freely admit that in time this difficulty may be lessened, and probably will be lessened; but at present it is very great.

In the cases which I have summarised the duration of the disease varied from one month to twenty-four months before admission to hospital; in only two cases was there a history of two years, and of the fourteen cases in which the duration was noted, nine had lasted only six months or under. In the matter of the duration of the disease, one of the fourteen cases deserves more than a passing notice. The most careful clinical inquiry could not trace any history of symptoms pointing to the stomach further back than a period of four weeks before admission. Within this period, and after suffering for a week or two from *malaise*, a nodulated tumour appeared in the right hypochondrium and rapidly increased in size. At the necropsy a large ulcerated cancerous tumour was discovered near the pyloric region, and the liver—weighing 140 ounces, or about three times its normal weight—was infiltrated in every part by secondary formations. I believe that the liver was involved in this case, when the symptoms first attracted attention, and that, had operation been resorted to even then, it would not have been too late. I am also of opinion that the cancer must have been present in the stomach long before it gave rise to any symptoms indicative of its presence. There can be little doubt that cancer of the stomach—in its earlier stages at least—is often latent in its development, or gives rise only to an intermittent mild dyspepsia, which scarcely attracts the patient's attention. In all our cases in which the duration was noted it must have been very difficult, even with the numerous diagnostic means now at our command, to determine the precise, and especially the earliest, moment for operative interference. In fact, I am very strongly of opinion that in the majority of cases, whenever the tumour has become so large as to be easily manipulated during life, the time for radical operation is past.

Another point having a very direct bearing upon the question of radical operation in cases of cancer of the stomach is the presence or absence of adhesions. Here, then, our analysis of



cases gives us some information. In thirteen cases out of the nineteen, adhesions and matting were definitely noted as being present. It must always be a matter of the greatest difficulty to determine clinically when such adhesions begin to be formed, and to what extent or degree they have advanced and involved neighbouring organs. No doubt a comparatively movable tumour is not likely to be adherent; but even very movable tumours may, I think, show considerable latitude in this respect, for not only the tumour but the parts to which it is adherent may move.

The determination of the mobility of a pyloric tumour is of great importance in any case where we have to make up our minds as to the advisability of performing the operation of pylorectomy. Information on this point may be obtained by careful palpation under chloroform, as in the case recorded by Dr. Joseph Coats and Mr. A. E. Maylard in *The British Medical Journal* of July 24, 1886, p. 150. In this case I had the charge of the anæsthetic, and had also the advantage of frequently examining the tumour along with Dr. Coats before operation. The patient died exactly four days after the operation from the exhaustion consequent upon continuous vomiting, which set in about thirty hours after the tumour was removed. I had also charge of the anæsthetic in the case reported by Professors McCall Anderson and George Buchanan in *The British Medical Journal* of March 24th, 1888, p. 633. I refer to the case now because it illustrates very well another mode in which pretty accurate information as to the mobility of a pyloric tumour may be obtained. In this case there was marked dilatation of the stomach, the pyloric tumour being situated about the level of the umbilicus. By practically stopping nourishment through the mouth and substituting nutrient enemata and suppositories the dilatation of the stomach disappeared, and the day before the operation the tumour had passed upwards to nearly the left costal margin. It was correctly judged, under these circumstances, that there were no adhesions. There can be no doubt that in the normal condition the pylorus has great freedom of movement, and the determination of the degree of mobility in a pyloric cancer necessarily gives valuable indications as to the extent of adhesions. It has been suggested to estimate the extent of adhesions by using effervescing powders, or by actual inflation through a stomach tube, in order to distend the stomach. It is clear, however, that such procedures should not be adopted, at least immediately before any operation. In concluding this part of our subject it is necessary to state that although a tumour may appear to be very movable during life it not infrequently happens that at an operation, or at the post mortem examination, the tumour is found to be adherent.

When we consider the question of secondary cancerous formations in its bearings upon the radical surgical treatment of malignant disease of the stomach, our analysis of cases gives us very unfavourable results. In sixteen out of the nineteen cases subjected to examination there was secondary extension from the primary growth. When a cancerous tumour of the stomach has given rise to the formation of secondary nodules, it is obvious that the chances of success from a radical operation are reduced to zero. Of course it might be urged that a careful exploration, when the abdomen had been opened, would inform us of the presence of any secondary involvement. It certainly might, but on the other hand it must be clearly borne in mind that it might not. I have careful notes of one case, included in the analysis I have just submitted, in which it was written down at the time in the post mortem journal that the disease was, from the absence of adhesions, from the size of the tumour, and from its free mobility, in all respects suitable for the operation of pylorotomy. Yet when we removed the liver a large secondary nodule was found on its posterior surface in such a position that no amount of abdominal exploration could possibly have revealed its presence during the life of the patient. An exploratory incision, then, would not seem to give us all the information necessary to judge with tolerable accuracy of the probably ultimate results of an operation, even in otherwise apparently favourable cases.

Regarded from a physician's or a pathologist's point of view, I do not think that the mere size of a gastric tumour need offer any serious obstacle to the possibility of its successful removal apart, that is to say, from the mere mechanical difficulties it may place in the way of the operation. I have seen a pyloric tumour as large as the fist successfully removed so far as the surgical operation was concerned. Of more importance than the size is the actual histological nature of the tumour, as upon this depends very largely the liability to secondary extension. Some of the worst and most extensive secondary cancers of the liver that I have seen have originated from comparatively small and trifling primary tumours; whilst the large tumour, to which I have just referred, had given rise to no secondary nodules. Upon the histological nature of the tumour also depends the manner in which it involves the gastric wall. Some tumours are comparatively localised and well demarcated; others infiltrate the surrounding tissue in a most irregular manner, so that it would be very difficult for the surgeon to be sure whether he had got quite clear of the growth or not.

I desire to conclude my remarks with the following personal expressions of opinion:



1. In the present state of our knowledge and diagnostics of gastric cancer the radical operation of pylorotomy can only be very rarely justifiable.

2. As all radical operations, if there is to be the slightest chance of ultimate success, must be undertaken as early in the course of the disease as possible, any exploratory abdominal incision, made merely with a view to finding out whether the tumour is suitable for attempting removal, and not for the palliation of distressing symptoms, can only be justifiable if the patient can be assured with tolerable confidence that he will not be worse after the operation than he was before it.

3. Gastro-enterostomy and other palliative surgical procedures are likely only to be undertaken in the later stages of the disease as a means of relieving distressing symptoms, of rendering life more bearable, and of probably postponing the fatal issue, and they are therefore in the highest degree justifiable in all suitable cases. Under such circumstances, at a comparatively late stage of the case, and under the pressure of great bodily suffering, an exploratory incision with a view to palliation is quite justifiable.—*British Medical Journal*, April 23, 1892, p. 846.

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## 88.—ON THE CURE OR SUBSIDENCE OF ASCITES DUE TO HEPATIC DISEASE.

By JOHN S. BRISTOWE, M.D., F.R.S., Consulting Physician to St. Thomas's Hospital.

[Dr. Bristowe's important paper contains the narratives of four cases, of which only the first and third are here reproduced.]

The subject of the subsidence of ascites dependent on portal obstruction, and the apparent restoration to health of persons thus affected and also suffering from permanent organic disease of the liver, is one that has interested me largely for many years, and is of great practical importance; for (notwithstanding that many experienced medical men know differently, and that the excellent papers on "The Varieties of Hepatic Cirrhosis," by Dr. Saundby, and on "Œsophageal Varices as a cause of Hæmatemesis in Cirrhosis of the Liver," by Drs. T. Stacey Wilson and J. R. Radcliffe, read before the British Medical Association in 1890, throw a very instructive sidelight on the whole subject) I believe I am correct in saying that most medical men at the present time regard the development of ascites in connection with liver disease as of fatal omen, or at any rate, the beginning of the end. In most cases I am free to admit that it is so, but it is certain that in no inconsiderable

minority of such cases recovery takes place under suitable treatment.

I propose now to narrate several striking examples of recovery from ascites due to organic disease of the liver, and to add or interpolate such remarks in relation to them, and to the subject generally, as the cases suggest.

*Case 1.*—H. H., married, and a governess, about 44 years of age, was admitted into St. Thomas's Hospital under my care on August 8th, 1886. She for several years, though not getting drunk, had taken to drink. Her health had begun to suffer and her strength to fail about two years previously, and about six months before admission uneasiness or pain in the belly had come on, followed shortly afterwards by swelling of this part and in the legs. She had had diarrhœa for a few weeks, and had been liable to a cough for years, but had never observed that she was jaundiced.

She was a fat woman, with a slight but quite distinct icteric tinge. The abdomen contained some fluid, but there was no manifest enlargement of the liver, or tumour; the legs were œdematous; she was suffering from diarrhœa; the urine contained a little biliary pigment, but no albumen. There was no further evidence of disease.

She remained under treatment for nine months and a half. Although there was some variation in her symptoms, her health gradually deteriorated during the first seven months or so; she got progressively weaker, and a fatal issue seemed inevitable; then, after a short period of oscillation, she began to mend, her symptoms subsided one by one, she rapidly regained strength, and when she left the hospital she was stronger and better than she had been for years.

On admission the abdomen was large, measuring forty-three and a half inches in girth, fat, and somewhat tense, and obviously contained fluid; and on August 21 was tapped for the first time. On that occasion only about five pints were removed. For a week or two there was no manifest change, but early in September it was noted that fluid was accumulating; and this process continued slowly, until on February 8 (or after a period of nearly six months) the abdomen had become very tense, and its girth had increased to forty-seven and a half inches. She was then tapped for the second time, and thirty-two pints of serum were withdrawn. After the operation her circumference was found diminished by ten inches. The ascites developed rapidly after this second tapping, and by March 11 she had become as large as ever, and on that day she had thirty-four pints of fluid removed, with an equal reduction of bulk to that observed on the previous occasion. Again there was rapid reaccumulation, so that on March 22 her girth was forty-three



inches, and on April 6 forty-seven inches. But, although there had been this rapid development of ascites since her second tapping in February, her health in every other respect had been undergoing marked improvement, and from about April 6, when for the third time her abdomen had attained its greatest degree of distension, improvement as regards the abdominal dropsy began also to take place. On April 14 her girth was only forty-three and a half inches, on May 6 it was thirty-nine and a half, and at the time of her discharge from the hospital only thirty-three and a half, and all evidence of ascites had disappeared. The great diminution in the size of her abdomen at this time compared with its diminution after her tapplings was doubtless due to the fact that, in addition to the removal of fluid, there had been a considerable removal of fat. During the whole of the time she was under observation the liver could never be felt, and there were no enlarged veins visible in the abdominal walls. The urine was always free from albumen.

As before stated, the patient left the hospital apparently in unusually good health on May 24, 1887; and she continued in excellent health and capable of performing all her duties for the next two years. I used often to hear of her, and occasionally to see her, during all this period, and have reason to believe that for a large portion of it she either abstained wholly from alcohol or partook of it very sparingly, but that latterly she resumed her evil habit; and on August 29, 1889, she was again admitted into the hospital under my care.

She had then been ailing for three months, mainly from gradual enlargement of the belly, but also from gradually increasing muscular debility.

On admission she was well nourished, of sallow complexion, but not jaundiced, and had no œdema of the legs. She had some cough, and wheezing was heard all over the chest, but she was not specially short-breathed. The abdomen was large and tense. Her legs were weak, and she had muscular hyperæsthesia with absence of knee-jerks; but there was no definite paralysis or loss of feeling. She did not now suffer, as she had done on the former occasion, from sickness or diarrhœa, or from mental disturbance, with the exception that there was some loss of memory. Her tongue was clean, her appetite fair, her urine free from albumen, her pulse about eighty, and her temperature normal.

She remained in the hospital on this occasion from August 29 to January 12, 1890, a period of about four months and a half.

The day after admission eighteen pints of clear straw-coloured fluid were removed from the abdomen. The muscular weakness which was observed at this time, more particularly in the legs,

was the first indication of the coming on of peripheral neuritis. This affection increased upon her for two or three weeks, and was characterised by numbness and a sense of tingling and grittiness in the fingers and palms of the hands, with some tenderness of these parts, and in the arms, and with some tremor, but no marked paralysis; and, as regards the lower extremities, by numbness and tingling in the feet and lower part of the legs, tenderness in the calves and feet, loss of power which prevented her from standing and walking, but not from moving her toes or feet while lying in bed, and abolition of knee-jerks. Then improvement gradually took place, and after she had been in hospital three months she began to get up and walk about a little. Excepting that her knee-jerks had not returned, all her paralytic symptoms had disappeared by the time she left the hospital. There was never any obvious wasting of the muscles of the affected limbs. During the earlier part of her stay in the hospital she had slight swelling and pain in the knee-joints, and during the whole of the time more or less of the bronchitis to which she was liable.

After the paracentesis, performed the day after admission, she gradually refilled, and on October 4, by which date her girth was forty-three and three-quarter inches, she was again tapped, and twenty pints of fluid were taken away. After this she again filled, until on December 13 her girth had attained forty-two inches. From this date the dropsy gradually subsided; and a few days before her discharge the abdomen, though still containing a little fluid, measured only thirty-nine inches. No enlargement of the liver or spleen was ever detected; and when she left the hospital on January 12, 1890, she was fairly well.

Owing to the various symptoms she presented and her many complications, she was subjected while in the hospital to much variety of treatment; but the aim always in view was to treat her with tonics, to feed her well, and to withhold alcohol.

I have seen her occasionally since. She has remained quite well, and there has never been any further return of the dropsy.

That the case just narrated was a typical case of chronic alcoholism there can be no reasonable doubt; her history, her mental condition during her first spell of illness, and her neuritis during her second spell, all support this view. And it may therefore be accepted, I think, that the ascites was due to cirrhosis of the liver, and that (though she seems well) her liver is still cirrhotic.

*Case 2.*—A gentleman became intemperate in his habits, in the latter part of 1878—at which time he was 35 years of age. In October, 1882, he was very ill, suffering from constant sickness, and getting weak and thin; his legs had begun to



swell, and enlargement of the belly had been observed ; but under medical treatment the sickness had subsided and his appetite was returning. I found him very ill, very thin and weak, and with a good deal of fluid in the abdominal cavity and in the lower extremities. On November 20 I made the following note :—

“Is getting much worse ; is very thin and weak and irritable, and constantly rambling. Takes little food, but is not sick ; tongue clean, bowels regular. He is short-breathed ; his pulse is weak and rapid. The abdomen does not appear to have enlarged materially, but it contains abundant fluid. There is also some fluid in the left pleural cavity.”

On November 22 the abdomen contained as before a good deal of fluid, but the left pleura was now distended. Paracentesis thoracis was performed, and three pints of serum were removed with much relief to the patient. A month later—namely, on December 22—I made the following note :—

“He has been improving in all respects. He has been steadily gaining flesh, strength, and appetite. His jaundice has disappeared. There has been no reaccumulation of fluid in the chest ; the ascites has almost wholly subsided, and he has no oedema of the legs. He is still, however, very thin and weak, and has the aspect of a person suffering from grave organic disease of the liver.”

He continued to improve, and, excepting that he remained weak and extremely thin, he left fairly well on January 24, 1883. I should add that he had no trace of cardiac, renal, or other visceral disease.

Shortly after his friends helped him to emigrate to New Zealand. And there he has remained ever since, leading a lonely life, earning a scanty pittance by the sweat of his brow, but continuing physically in good health. As to his habits I know nothing, but assume that if he drinks at all, as probably he does, he drinks in moderation. There is no record of this patient's treatment, but I know that the treatment relied on was such as was calculated to give appetite and promote strength.

Now, here again there was a very clear alcoholic history ; and, although the ascites got well without tapping, there can be no doubt, from the fact of the development of this form of dropsy and of jaundice, that his liver was at that time affected with early cirrhosis.

*Case 3.*—On April 30, 1890, I saw with Dr. Wyman a young lady aged 24 years of age. She belonged to a highly respectable and apparently healthy family ; and, although of small and delicate physique, seems to have had good health down to the commencement of her present illness. About the immediately

preceding Christmas, as she was about to return home from a foreign country, where she had been on a visit, she was suddenly attacked with profuse hæmatemesis and melæna. This delayed her return, but she arrived at a seaport in England fairly well about a week before I was called in. There she had a recurrence ; but, notwithstanding, was brought home in the course of a day or two, and there had two other attacks, the last being on the evening of the 29th. She had suffered latterly from pain or uneasiness after food and loss of appetite ; but (apart from the bleeding) the symptoms referable to the stomach had never been severe.

She was extremely anæmic and weak when I saw her, and complained of noises in her ears, but was otherwise comfortable and free from pain, and after careful examination I failed to detect any evidence of thoracic disease, or any tumour or tenderness in the abdomen. We not unnaturally regarded the case as one of simple ulcer of the stomach, and treated her accordingly.

During the following ten or twelve days she progressively improved, had no return of bleeding, and at the end of this time was beginning to take a moderate quantity of appropriate food without much discomfort ; but of course she still remained pale and weak. Then the abdomen began to fill, and it filled so rapidly that within two or three days of the discovery of this condition, namely, on May 15th, she had to be tapped, and 11 pints of clear limpid serum were removed. I saw her on the 18th, three days after the operation, and already the abdomen was distended. I need scarcely say that the original diagnosis had now to be rejected, and that her symptoms were referred to portal obstruction presumably dependent on some form of cirrhosis. But there was no reason to suspect her of over-indulgence in alcohol.

The next time I visited her was on May 28th. She had been tapped three times since my last visit, and each time to about 9 pints, the last occasion being the day before the present interview. She looked much better in health than before, and cheerful. She had a fair appetite, no sickness, and very little uneasiness after food. There was very little water in the abdomen at this time. The part was not tender, and on careful examination no enlarged organ or tumour could be felt. She was passing rather a large quantity of urine.

Shortly after my last visit a consulting surgeon was called in, who himself performed paracentesis, and took some of the ascitic fluid away with him for examination ; and either then, or subsequently, the edge of the liver was detected extending a little below the ribs, and in it a small nodule or area of hardness. The diagnosis then formed was, I believe, that the patient was suffering from malignant disease in the abdomen.



During June she was tapped seven times, at intervals ranging from three to seven days, the quantity of fluid varying between 4 pints 15 ounces and 8 pints 10 ounces. At the end of this month, however, a very suggestive item of information came to light. It was ascertained accidentally that a brother of this young lady had a few years previously been under treatment by a London oculist for some congenital syphilitic affection of the eyes, and naturally at once the suspicion was raised that the lump which had been detected in her liver was a gumma, and that the portal obstruction which had caused gastro-intestinal hemorrhage and ascites was due to some growth of the same nature. Ten grains of iodide of potassium, to be taken three times a day, were therefore ordered for her early in July, and after two or three weeks the dose of iodide was increased to 12 grains, and a dram of perchloride of mercury was added ; and this treatment was continued, with a few interruptions, down to February in the following year.

During July (as during June) she was tapped seven times, to quantities varying between 5 pints 9 ounces and 8 pints 10 ounces ; and during August six times, to quantities ranging from 4 pints 12 ounces to 7 pints 6 ounces. In September she was tapped three times, namely on the 5th to 6 pints 17 ounces, on the 13th to 6 pints 10 ounces, and on the 22nd to 6 pints. This, which was the twenty-seventh operation, was the last that was ever needed. The patient thenceforth gradually regained fair health, and is, I am told, at the present time better than she has been for years.

In the case just narrated (although at first the symptoms were misleading and their cause obscure) it was eventually conclusively shown by the collateral history, by the presence of a nodule in the liver, and by the result of treatment, that the obstruction of the portal vein which had caused hæmatemesis and ascites was due to the growth of gummata about the transverse fissure of the liver.

Without going into minute particulars, we may classify the causes of obstruction as threefold ; first of all, true cirrhosis, and other cirrhotic conditions of the liver, in which the seat of obstruction is the smaller and capillary vessels generally throughout the organ ; secondly, cancerous and syphilitic growths occupying the transverse fissure of the liver or its neighbourhood, and compressing or involving the portal vein itself, or the occlusion of this vessel by the formation of thrombi ; and thirdly, obstructive disease of the heart or lungs inducing nutmeg liver, and (owing to the relatively feeble force with which the blood returns from the chylopoietic viscera to the vena cava) relatively greater sluggishness in the flow of blood in the veins and capillaries of these parts, and therefore

relatively greater tendency to dropsy in the abdomen than elsewhere. My first three cases obviously belong to the first class, and my fourth case to the second class. Of the third class I have adduced no examples, partly because I should thereby have added considerably to the length of my paper, and partly because I have made it the subject of a clinical lecture which I am intending to publish.

The pathological means by which the portal obstruction becomes obviated, or cured, is a subject of much interest. In the first place, it has been amply proved that there are fairly free communications between the tributaries of the portal vein and neighbouring systemic veins; and that hence, where portal obstruction exists, there is a tendency for the blood of the portal circulation to be shunted into some of these other veins which then gradually undergo dilatation, and thus for the more or less complete relief of this circulation. So that even without any beneficial change in the liver itself, ascites may in this way be permanently cured or circumvented. It has been shown (and very conclusively shown in the paper by Drs. Wilson and Radcliffe already referred to) that the œsophageal veins are largely concerned in this process; and that the consequent varicose condition of the submucous veins of this part is, from their tendency to rupture, one of the sources, if not the main source, of the profuse hæmatemesis and melæna which are apt to follow on portal obstruction. I have no doubt of the frequency of gastro-intestinal hemorrhage from this cause; but I cannot help suspecting that, while this would be likely to occur mainly in the later stages, the hemorrhage attending the disease in its earlier stages may be due to the dilatation and rupture of some of the primarily over-distended and dilated submucous veins of the stomach or intestines. At any rate such perforations would be very difficult of discovery. But we cannot refer all cases of apparent recovery to this diversion of the portal circulation; for in many cases of recovery we have no evidence whatever that anastomosing veins have become dilated; and, moreover, if that were the universal explanation, cases like my first, in which, after a time the dropsy subsides, to be redeveloped several years later after the lapse into bad habits, would be inexplicable. Indeed, one cannot reasonably doubt, that in a slowly progressive inflammatory affection like cirrhosis the progressive increase of which is in many, if not in most, cases due to the repeated influence of an irritant locally applied, the cessation of this influence would be likely to be followed not only by arrest of the disease, but also by some amelioration in so much of it as had recently accrued and was amenable to treatment; and further that, inasmuch as in cirrhosis there is a point in the progress of the disease at which dropsy does



not arise, and a point only a little later at which dropsy does arise, by proper treatment at the right time this last straw that breaks the camel's back might be removed. It is quite clear that in each of my first three cases something of this kind occurred; for in each of them there was jaundice in relation with the beginning of ascites, a condition which implied a wider diffusion or a greater intensity of disease than that causing only dropsy, and which subsided. Again, there are other cases in which, as in my third, the obstructing disease is of a specific kind and admits of amelioration or removal by specific treatment.

The question of treatment is an important one, yet one about which I will not discourse at any length. It is almost needless to expatiate on the value of accurate diagnosis in relation to this matter. My third case is a striking illustration of this fact, for it was one that would doubtless have ended fatally had it not been for the accidental discovery that a brother had been the victim of congenital syphilis. There are doubtless many cases of visceral syphilis which are misinterpreted to the detriment of the patient. The treatment of ascites, due to cirrhosis of the liver, is, according to my experience, comparatively simple, and in a large proportion of cases proves very fairly successful. It is simply to promote the general health of the patient by appropriate tonics and diet, to cut off as far as possible the alcohol which he has probably been in the habit of taking, and to tap from time to time, not, however, waiting until the abdominal distension had become so great as of itself to impair health. Of course the tonic and dietetic treatment will need to be varied in different cases, and from time to time in the same case, in accordance with the condition of the digestive organs and the different symptoms or complications which may arise; and, further, such symptoms or complications may need specific treatment for their own amelioration or cure. But although I should certainly keep the bowels freely open, I have never seen any benefit from active purging, and should oppose it. Indeed, spontaneous diarrhœa is not an uncommon incident in cases that are going on badly. Diuretics are of more service, and I have often thought that the combination of mercury, fresh squill, and digitalis has aided the removal or absorption of fluid. But they only act vicariously (so to speak) of paracentesis, and, though often beneficial, are not curative in the true sense of the word. Diaphoretics will of course act somewhat in the same way as diuretics, but I have never seen any obvious advantage from their employment. I should not, on theoretical or other grounds, object to the use of mercury or iodide of potassium in the treatment of the disease in its early stage.—*British Medical Journal*, April 23, 1892, p. 847.

## New Drugs and Food-Stuffs, &c.

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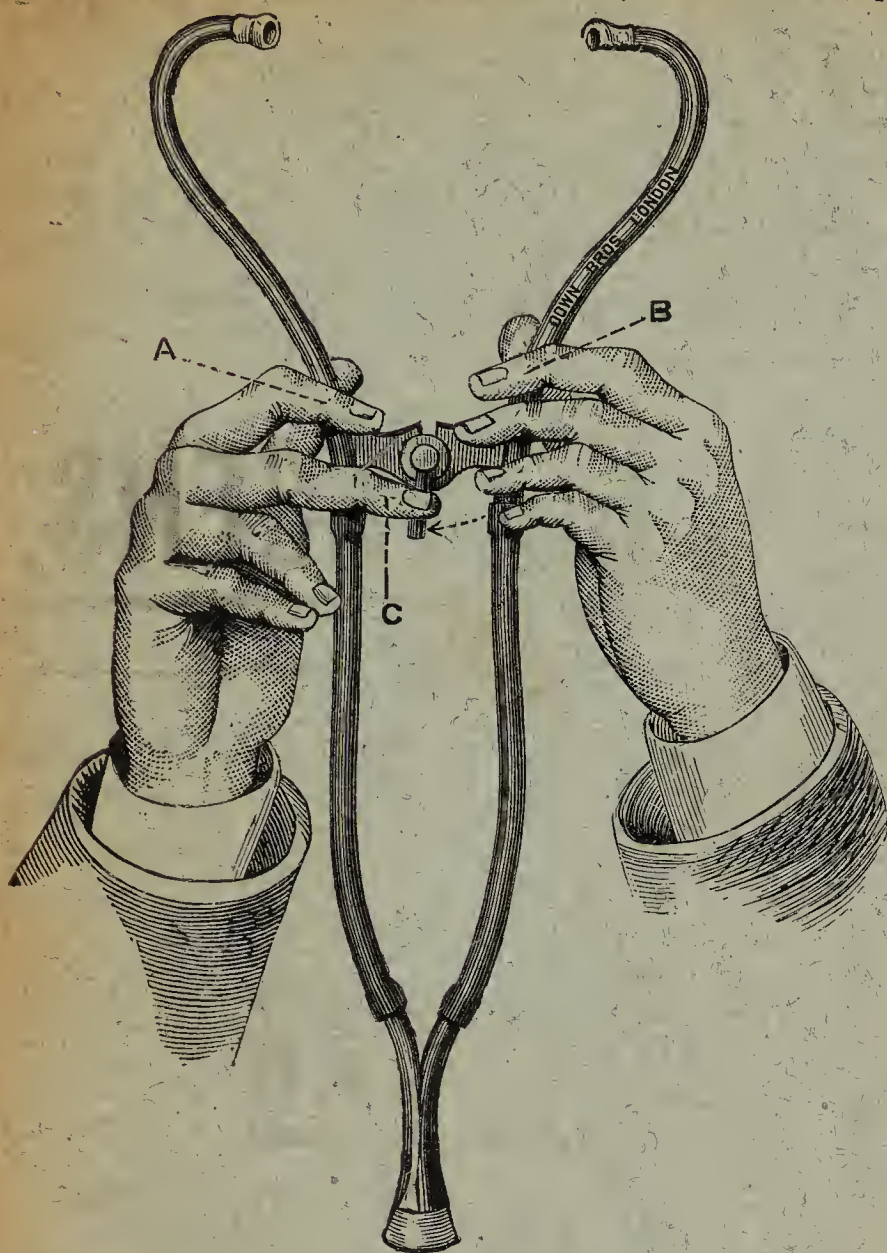
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